

# **BUSINESS ECONOMICS**

**B.Com.,( General and Computer Applications)  
First Year, Paper – I**

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B.Com., (CA & General): Business Economics (EM)

First Edition: 2008

Second Edition: 2011

Third Edition: 2012

Fourth Edition: 2014

Fifth Edition: 2019

No. of Copies: 6168

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This book is exclusively prepared for the use of students of Centre for Distance Education, Acharya Nagarjuna University and this book is meant for limited circulation only.

Published by :

**Prof. Sumanth Kumar Kunda,**

*Director*

Centre for Distance Education,

Acharya Nagarjuna University

*Printed at :*

**M/s. Sree Lakshmi Press, Guntur**

## FOREWORD

*Since its establishment in 1976, Acharya Nagarjuna University has been forging ahead in the path of progress and dynamism, offering a variety of courses and research contributions. I am extremely happy that by gaining a B++ (80-85) grade from the NAAC in the year 2003, the Acharya Nagarjuna University is offering educational opportunities at the UG, PG levels apart from research degrees to students from over 285 affiliated colleges spread over the three districts of Guntur, Krishna and Prakasam.*

*The University has also started the Centre for Distance Education with the aim to bring higher education within reach of all. The centre will be a great help to those who cannot join in colleges, those who cannot afford the exorbitant fees as regular students, and even housewives desirous of pursuing higher studies. With the goal of bringing education to the doorstep of all such people, Acharya Nagarjuna University has started offering B.A., and B.Com courses at the Degree level and M.A., M.Com., M.Sc., M.B.A., and L.L.M., courses at the PG level from the academic year 2003-2004 onwards.*

*To facilitate easier understanding by students studying through the distance mode, these self-instruction materials have been prepared by eminent and experienced teachers. The lessons have been drafted with great care and expertise in the stipulated time by these teachers. Constructive ideas and scholarly suggestions are welcome from students and teachers involved respectively. Such ideas will be incorporated for the greater efficacy of this distance mode of education. For clarification of doubts and feedback, weekly classes and contact classes will be arranged at the UG and PG levels respectively.*

*It is my aim that students getting higher education through the centre for Distance Education should improve their qualification, have better employment opportunities and in turn facilitate the country's progress. It is my fond desire that in the years to come, the Centre for Distance Education will go from strength to strength in the form of new courses and by catering to larger number of people. My congratulations to all the Directors, Academic Coordinators, Editors and Lesson-writers of the Centre who have helped in these endeavours.*

Prof. P. Rajasekhar  
Vice-Chancellor  
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**ACHARYA NAGARJUNA UNIVERSITY**  
**B.Com., I YEAR GENERAL AND COMPUTER APPLICATIONS**

**Paper – I Business Economics**

The objective of this paper is to help the students to understand the micro and the macro economic concepts for business decision making.

**UNIT – I : Introduction**

Economic Activities – Distinction Between Economic and Non-Economic Activities – Definitions, Scope, Significance, Nature of Economics – Micro, Macro, Normative and Positive Economic Analysis.

**UNIT – II Demand – Utility Analysis and Theory of Productions**

Meaning of Demand – Types of Demand, Individual Company Market and Industry Demand, Derived Demand, Demand Function – Law of Demand, Law of Diminishing Marginal Utility – Law of Equi-Marginal Utility - Consumers' Surplus – Elasticity of Demand - Factors influencing Elasticity of Demand, Law of Production – Law of Variable Proportion – Returns to Scale and External Economics – Cost – Output Relation – Cost Functions and Concepts – Law of Supply.

**UNIT – III : Market Structure and Pricing**

Types of Competitions – Perfect Competition – Monopoly and Price Discrimination – Monopolistic Competition - Oligopoly – Meaning and Significance of Pricing – Price Determination under different competitive market conditions.

**UNIT – IV : Theories of Distribution and Business Cycles**

Marginal Productivity Theory of Distribution – Theories of Rent, Interest, Wages and Profits – Definition and Phases of Business Cycles – Causes – Consequences – Measures to solve the problems arising out of Business Cycles – National income Concept and Measurement.

**UNIT – V : Theories of International Trade**

Need For the International Trade – Comparative Cost Theory – Ohlin's Theory – Recent Trade Policy – Trade Agreements – Bilateral, Multilateral Trade Agreement Balance of Trade, Balance of Payments, GATT, Social Clauses of GATT – Role of W.T.O. in promoting International Trade.

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## **Lesson : 1**

# **ECONOMICS – DEFINITIONS - SCOPE**

## **1.0 OBJECTIVES OF THE LESSON:**

At the end of this lesson you will be able to know:

- \* The subject matter of Economics
- \* Economic and Non-Economic Activities
- \* Basic Economic Activities
- \* Definitions of Economics
- \* Scope of Economics
- \* Distinction Between Micro-Economics and Macro Economics
- \* Distinction Between Static Economics and Dynamic Economics
- \* Methods of Scientific Study
- \* Importance of Economics
- \* Relationship with other Sciences

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## **1.1 INTRODUCTION OF ECONOMICS:**

Human wants are unlimited. But the resources to satisfy those wants are limited. If the resources are unlimited in accordance with unlimited wants, economic problem will not arise.

Then there is no need of economics also. In reality, the resources are limited and it leads to economic problem. That is why one has to choose the wants that are to be satisfied with the limited resources. For example, an individual's income is Rs. 2,000/-. With this limited income he has to pay rent, fees of his children and other expenses. In addition, he may have so many wants to satisfy. But with his limited income, he is unable to satisfy those wants. Economics is useful in a situation when the wants are unlimited and the resources are limited.

Economics explains the human behaviour between unlimited wants and scarce resources. As the resources are scarce, all wants cannot be satisfied. So the problem of choice will arise. Economics is useful in selecting the uses to which scarce resources can be put. Selecting a resource for one use means foregoing for other uses.

Economics explains the human behaviours between ends and scarce means. In addition, it studies the level of income, fluctuations in employment, economic stability, economic growth and development etc. The objectives of the subject economics are multifaceted that is why an eminent economist states that economics is what economics does.

## 1.2 ECONOMIC & NON - ECONOMIC ACTIVITIES:

Human activities can be divided into two, namely, economic activities and non-economic activities.

**1.2.1 ECONOMIC ACTIVITIES:** Activities relating to economy or the activities that are dealt by economics are called as economic activities. Since birth, man consumes different kinds of goods such as milk, rice, books, televisions and services of lawyers and doctors etc. Producing of such goods and services is known as production.

Economic activities such as production and consumption are limited with either money or income. Income can generate or expenditure can proceed in the process of these activities. Example in the process of production income generates. The income earners spend this amount on consumption. Like wise, economic activities will continue. Any person in the activity to satisfy a want by earning income by any person, at any part of the world, or at any time is called as economic activity. Economics considers all kinds of economic activities.

**1.2.2 NON - ECONOMIC ACTIVITIES:** Activities that can be done without expecting a monetary benefit or freely for the sake of self satisfaction are come under non-economic activities. In other words, all activities which can be done without monetary intention are called as non-economic activities. Activities such as love, satisfaction, affection, etc... are come under non economic activities.

Religions and cultural activities which are free of cost are also considered as non-economic activities. However, non-economic activities may be changed into economic activities.

## 1.3 BASIC ECONOMIC PROBLEMS:

Every economy has to face three basic economic problems. It may be capitalist economy or socialist economy or mixed economy, these three problems are the main problems. They are:



1. What is to be produced and in what quantities.
2. How to produce
3. For whom to be produced

**1.3.1 WHAT IS TO BE PRODUCED AND IN WHAT QUANTITIES:** The first central problem is what goods and services are to be produced and in what quantities because the resources are scarce and they have to allocate among different uses. As the resources are scarce, the society has to decide how much resources are allocate for consumer goods and how much for capital good basing on the priorities. If higher priority given to consumer goods which implies less for capital goods and vice versa. Hence, what is to be produced and in what quantities is an important economic problem.

**1.3.2 HOW TO PRODUCE:** After deciding the first problem what is to be produced and in what quantities, the next basic problem is to decide the methods or techniques to be used to produce the require goods. There are different kinds of techniques of which the two important are : 1. Labour intensive Technique (Method of using more labour and less capital), 2. Capital intensive technique (Method of using more capital and less labour). Basing on the availability of labour and capital, the countries have to select the technique which is suitable to their conditions. Labour abundant and capital scarce countries adopt labour intensive technique. Where as, capital abundant and labour scarce countries adopt capital intensive technique.

**1.3.3 FOR WHOM TO BE PRODUCED:** Lastly, the problem is for whom are the goods produced. This problem is allocation of goods among the different members in the society. The goods that are produced in the country are to be distributed among different sections of the society namely labour, producers, land lords etc. What criteria is to be adopted to distribute is the crucial problem. Economists like Adam Smith, Recordo etc are enunciated different theories of distribution. In general, the distribution is depend upon the objectives of the country.

The three basic problems discussed above are important economic problems. In capitalistic economies, these problems will be solved by market mechanism, where as, these problems will be settled by the government in socialist economies. In mixed economies, these problems will be solved by market mechanism as well as the Government and the level of sharing is based on the circumstances.

## 1.4 DEFINITIONS OF ECONOMICS:

Every science require a definition. Because definition gives the boundaries of that subject. It explains the subject matter that the science deals. So the definition of economics states that what things the economics considers and what are not. However, it is not that much easy to give an appropriate definition for economics in the changing circumstances.

Like any other sciences, different economists gave different kinds of definitions for economics. These definitions can be categorised into four types.

1. Wealth Definition or Adam Smith Definition (18th Century)
2. Welfare Definition or Marshall Definition (19th Century)

3. Scarce Definition or Robbins Definition (20th Century)
4. Growth Definition or Samuelson Definition (20th Century)

**1.4.1 WEALTH DEFINITION:** Adam Smith, the father of economics defined economics in the year 1776 in his treatise 'An enquiry into the nature and causes of wealth of Nations'. According to Adam Smith economics is a science of wealth. It treats the nature and causes of wealth of nations. Economists like J.B. Say, J.S. Mill, Nassau Senior etc are also same kind of opinion on economics.

The definitions of economics given by Adam Smith and others reveal that mobilising of wealth is the main aim of economics.

**Important Points In Wealth Definition:**

1. Economics deals with material wealth.
2. Wealth means material wealth or physical wealth and these are scarcely available.
3. Economics means mobilisation of wealth which can be called economic development.

As this definition gives undue importance to wealth activities but neglected the human welfare, the wealth definition was criticised in many ways.

1. Adam Smith gave undue importance to wealth and neglected human welfare.
2. According to this definition material things only come under the purview of economics but non-material goods and services will not come under economics.
3. Carlyle, Ruskin, Dickens opined and lamented that giving undue importance means lowering the status of man and led economics as mannerism, a dismal science, the science of getting rich.
4. Economists criticised this definition as it leads to over selfishness.

**1.4.2 WELFARE DEFINITION:** In order to give a respectable place to economics, Marshall has given a definition by giving emphasis on man and his welfare. He considered wealth is source of human welfare and it is not end in itself. Marshall in his book 'Principles of Economics', in the year 1890, he stated that 'economics is one side a study of wealth; and on the other, and more important side, a part of the study of man'. Marshall defined economics as 'Political Economy or Economics is a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requirements of well being. Economists such as, A.C. Pigou, Edwin Cannon, Beveridge were also defined economics by emphasizing human welfare.

**Important Points in Welfare Definition:**

1. Human life concerned with social, religious, political and economic aspects. But economics deals only economic aspects.
2. Economics is concerned with the study of man living in a society. It is not concerned with the activities of an isolated man like Robinson Crusoe.

3. It is implied by Marshall's definition states that material goods only promote human welfare.
4. Marshall has given more importance to human welfare than wealth.

**Marshall's wealth definition is an improvement to wealth definition. However, this definition also fall under severe criticism.**

**Criticism:**

1. There are two kinds of goods viz., material and non-material goods (services) that promote human welfare. But Marshall considers only material things and neglected non-material things (services) in his definition.
2. Marshall states that activities which improve human health are considered in Economics. There are certain material activities such as intoxicants are not conducive for human welfare. Still they are considered in economics because they are scarce and have economic value.
3. The word welfare is also criticised by the economists. Welfare is a psychological phenomena. It is subjective and cannot be measurable. The idea of welfare differs individual to individual, place to place and country to country. For example, wine may give pleasure to drinkers, but is harmful for the novice.
4. If the welfare definition is accepted, every time one has to study whether the activity is conducive to human welfare or not. It is not supposed to be the function of Economics. Hence, Robbins states that economics is neutral as regards to ends.
5. According to Marshall's definition economics can not study isolated individuals such as Robinson Crusoe. Actually, however, economics studies the isolated individuals as well as individuals living in the society.

Lionel Robbins criticised the welfare definition and given a scarcity definition while rectifying the major defects.

**1.4.3 SCARCITY DEFINITION:** Prof. Lionel Robbins in his publication "Nature and Significance of Economic Science" in the year 1932, defined economics without using the terms wealth and welfare. According to him, 'Economics is the science, which studies human behaviour as a relationship between ends and scarce means which have alternative uses.

**Important Points in Scarcity Definition:**

1. Human wants are unlimited. When a particular want satisfied another want crop up in its place.
2. The means or resources to satisfy the wants are limited or scarce.
3. These limited resources have alternative uses also.
4. As the limited resources put in one use one has to forego the other uses. Hence, the problem of choice comes in consumer satisfies the wants basing on the intensity.

**SUPERIORITIES OF ROBBINS DEFINITION:**

1. This definition does not contain the distinction of 'material goods' and 'non-material goods'. Economics considers and explains all kinds of goods.
2. Economics considered as science. It is a systematic body of knowledge. Like pure sciences, Economics is neutral between ends.
3. Economics got universality due to this definition. Economics is a study of human behaviours between unlimited wants and scarce resources, it cannot consider whether an individual leading isolated life or in a society.
4. The definition extended the scope of economics. It is extended to that area where the problem of 'choice' arises.
5. Unlike Marshall, Robbins identified the basic problem of Economics.

Robbins definition is superior over other definitions in several aspects. However, this definition is not free from criticism. Economists, such as, Barbara Woofor, Beveridge, Keynes, Knight etc are criticized the definition.

1. Though Robbins rejects the using of the term 'welfare', the critics states that it is a concealed concept in the definition. As economics is a science of choice means it is implied that the welfare concept extended into economics in loop line.
2. Economists criticized this definition on ethical neutrality. They opined that ethical neutrality leads to deficiency of human touch in economics.
3. Economising scarce resources in relation to ends for the solution of all economic problems is made economics as value theory. According to this definition, economics cannot consider aggregate economic activities such as national income, employment though they come under the purview of economics.
4. Recently, economic growth and economic development are important concepts in economics. But Robbins did not consider these concepts in his definition.
5. Experiences states that economic problems arise not only with scarcity but also plenty. Example Depression of thirties. Robbins has not identified that plenty is also a responsible for economic problem.
6. Some times, the problem of allocating scarce means among given ends, there may be a necessity to consider non-economic problems also.
7. As collective choice is more important than individual choice in socialist countries, this definition cannot be applicable to socialist economies.

Though this definition has several short comings, it is a scientific definition and better than the other definitions.

- 1.4.4 GROWTH DEFINITION :** Recently economic growth occupies important place in the study of economics. Professor Samuelson refined Robbins definition defined economics by taking choice, economic growth, planning etc into consideration. According to Samuelson

'Economics is the study of how people and society choose with or without money to employ scarce productive resources that could have alternative uses to produce various commodities overtime and distribute them for consumption now or in the near future among various people and groups in the society. Economics analyses the cost and benefits of improving the pattern of resource use'.

#### **SUPERIORITIES OF GROWTH DEFINITION:**

1. Samuelson also considered the scarcity of resources and their alternative uses like Robbins.
2. He explained the problems arises in production and distribution while using these scarce resources.
3. He gave importance to economic growth in his definition.
4. He identified not only present problems but also future problems and analysed the factors which are necessary for growth.
5. He has bring the non-economic problems into the purview of economics along with economic problems.
6. He added growth along with scarcity in his definition.

In addition to the above definitions, different economists defined economics in different ways. However, for the sake of convenience, we are limiting to the above definition.

### **1.5 SCOPE OF ECONOMICS:**

Scope of a science means considering the boundaries of the subject. Similarly scope of economics means estimating the boundaries of economics. Basing on the definitions, we can assess the scope of economics upto certain extent. However, we can know the true scope of economics.

1. Subject-matter of Economics
2. Nature of Economics
3. Limitations of Economics

**1.5.1 SUBJECT – MATTER OF ECONOMICS:** According economists such as Adam Smith, J.S. Mill, J.B. Say, Ricardo, economics is a science of wealth. So, the scope limited to wealth only. Alfred Marshall added the material welfare to wealth in his definition. Later Lionell Robbins defined economics as a human behaviour as a relationship between ends and scarce means which have alternative uses with out mentioning neither wealth nor welfare. The Robbins definition widened the scope of economics and the things like individuals, families, business firms, Government comes under the purview of economics. Hence activities such as consumption, production, exchange distribution, public finance, international business will come under the scope of economics.

**1.5.2 NATURE OF ECONOMICS:** There is no unanimous opinion among different economists on nature of economics. The discussion on the following will give clear picture about the nature of economics.

- A) Economics is a Science or Art ?
- B) Economics is positive science or normative science.

**1.5.2a. ECONOMICS IS A SCIENCE OR ART?:** A systematic body of knowledge ascertainable by observation and experiment is called as science. A science consists of principles, laws, cause and effect relations and generalisations. Economics is considered as science because it comprises of economic principles, laws, cause and effect relations and the laws possess universal validity also. Hence, economics considered as science.

The practical application of scientific principles is called art. Economic principles can be applicable in the society. The causes and effect of poverty come under the purview of science and the activities taken for the removal of poverty is considered as art. Robertson, Robbins considered economics as science, whereas, the economists such as Pigou, Marshall, J.S. Mill considered economics as art.

A science should possess the feature art. Science and art are complementaries. Economics is science as well as art. The discussion on 'economics is science or art' shows how the scope of economics has widened.

**1.5.2b. ECONOMICS IS POSITIVE SCIENCE OR NORMATIVE SCIENCE:** Robbins brought the controversy whether economics is normative science or positive science. Positive economics concerned to 'what is' whereas normative economics is 'what ought to be'. The former is pure science while the latter is an ethical science.

In Robbins view economics is positive science means 'what is'? or pure science. It is unconcerned with the moral or ethical judgements. It is neutral between ends. Economists are unconcerned with the passing of judgement whether an economic activity increase the welfare or not ?

With regard to normative context, economics is a social science. It is the responsibility of the social scientists to take right decisions. Similarly, it is the responsibility of economists to point out the positive and negative features of economic activities or laws. It is also evident that the importance of moral and ethical laws has continuously increasing in the business field.

The above discussion states that economics is not only a positive science but also a normative science of what ought to be. If economics is a pure science, economic welfare will not be increased. There will be no solution to the serious economic problems like unemployment, inflation etc. Hence, the role of economics is more as normative science than positive science. The above discussion reveals that scope has further widened.

**1.5.3 LIMITATIONS OF ECONOMICS:** It essential to know the limitations of economics to understand the scope of economics. The limitations of economics are :

1. Even though the life of a human being linked with social, cultural, religions, political and economic activities, economics is limited to only economic activities.

2. Economics will not consider the irrational people such as drunkards, misers etc.,
3. It studies the scarce resources in the economy.
4. Economics cannot study the people who live in illusions.
5. Economic laws are scientific laws. They explain the cause and effect relationship. Unlike scientific laws, economic laws are not assertive.

The above discussions on subject-matter of economics nature of economics and limitations of economics reveals the scope of economics.

## 1.6 MICRO AND MACRO-ECONOMICS:

Ragnar Fish was the first economist who divided the subject matter of economics into micro economics and macro economics.

**1.6.1 MICRO ECONOMICS:** Micro Economics studies the economic activities of individuals (individual consumer of households or firm etc) and small groups of individuals. Micro economics can also be called as price theory. In micro-economic analysis, price determination and allocation of resources is studied through three stages, such as, the equilibrium of individual consumers and producers, the equilibrium of a single market and the simultaneous equilibrium of all markets. As this is a study with very small units, in an economy this is called as micro economics.

**IMPORTANCE:** Micro-Economics got an important place both theoretically and practically in economic analysis. Micro economics is useful :

1. To understand the working of an economy and free enterprise economy in particular.
2. To provide analytical tools for evaluating the economic policies.
3. To provide suitable solutions for efficient allocation of resources.
4. Helpful in understanding the problems of taxation, international trade
5. To examine the conditions of economic welfare.

**LIMITATIONS:** Micro Economics has got the following limitations :

1. It is concerned with individual units and neglects the whole or aggregates.
2. It is based on unrealistic assumptions such as 'full employment', 'Laissez faire' etc.
3. Some times it misleads in analysing several economic problems.

**1.6.2 MACRO ECONOMICS:** Macro Economics studies with the aggregate economic activities. Macro economics can also be called as Income Theory. It studies the economy as a whole and Employment. Economic activities such as total employment, national income, national output, total investment, total consumption etc are dealt in macro economics. It studies the nature of aggregate variables, their inter-relations, their determination and causes of fluctuations in them etc.

**IMPORTANCE:** The following points show the importance of macro economics in an economy.

1. It is useful to understand the working of an economy.
2. It is useful to formulate correct economic policies to the country.
3. It is the basis of all plans of economic development of under developed countries.
4. It enables us to properly organise, collect and analyse the data of national income and other social accounts.

**LIMITATIONS:** Macro Economics is also not free from any limitations.

1. It studies economy as a whole but neglects the individual items.
2. Excessive thinking in terms of aggregates leads to misleading impressions. For example, consider that the national income of India increased by 42 per cent and per capita income by 17 per cent during the first decade of planning. This looks like a fair record but overlooks the inequalities in the redistribution of that increment in income among different social groups.
3. In spite of all improvement in statistical tools, it is not possible to get satisfactory measures of aggregates as well as averages which form the basic data for macro economics.

**1.6.3 INTER RELATIONSHIP BETWEEN MICRO AND MACRO ECONOMICS:** There is no clear cut boundaries to distinguish between micro and macro economics. They are interrelated and interdependent. Micro economic theory depends upon macro economics in certain instances, whereas, macro economics depend, on micro economic analysis in certain instances. In addition, there is non-interdependence between the two. There are many macro economic problems which are not applicable to individuals vice versa. For example, there can be and usually divergence between individual's income and his expenditure but for the economy as a whole total income and total expenditure are always equal. In certain cases, in micro point of view, individual savings gives positive results but aggregate savings (economy as a whole) will lead to fall in capital that in turn leads to fall in income and employment etc. Hence, separate study of micro economics and macro economics is inevitable to study the economic problems.

## 1.7 STATIC ECONOMICS, DYNAMIC ECONOMICS:

Auguste Comte introduced the concept static, dynamics in sociology. J.S. Mill used these concepts in economics. Static in economics implies a state characterised by movement at a particular level without any change. In static economics, analysis made on the assumption that there is no change population, capital, production techniques etc. In other words time element does not taken into consideration.

But actually economy is dynamic changes in population, capital, techniques of production etc may be happened through time. An economic analysis made by taking the changes which continues through time is known as dynamic economics.



Economic statistics and economic dynamics are essential for economic analysis. Because some economic problems can be solved by economic statistics where as, other can be solved by economic dynamics.

## 1.8 METHODS OF ECONOMIC ANALYSIS:

There are two kinds of scientific methods to analyse the economic problems. They are 1. Deductive method 2. Inductive method. Deductive method means the application of logic to go from the general observations to particular principles. Where as, inductive method deals with particular facts, arranges those facts so as to formulate some empirical generalisations.

**1.8.1 DEDUCTIVE METHOD:** This method was used by classical economists. They tried to build up the scientific principles. This method starts with indisputable facts about human nature and draw improvements about concrete individual cases. The deductive method is of two kinds, the mathematical and the non-mathematical. Almost all classical economists supported deductive method but mathematical. This method involves the following steps in formulating economic laws.

1. The deductive method is useful in analysing the complex economic phenomenon where cause and effect are inextricably mixed up.
2. It is very simple method and it is easy for application.
3. Analysis and process of logical reasoning where by inferences are drawn.

In this method, we formulate principles on human behaviour, observations and experiments are out of question.

### **MERITS AND DEDUCTIVE METHOD:**

1. As this method is based on more and more complete assumptions, this method is nearer to reality.
2. The principles drawn from this method are of universal validity.
3. The use of mathematical tools in this method brings exactness and clarity. The principles formulated by this method will give scope for further research.
4. The principles developed by deductive method are very useful for the government to make policy decisions.

### **DEMERITS OF DEDUCTIVE METHOD:**

1. There is limited scope for economists to formulate laws in laboratories like physical and biological sciences.
2. It requires high competence on logic.
3. The conclusions derived from deductive reasoning are not applicable universally. Because the premises from which they have been deduced may not hold good at all times and all places.

4. The principles drawn from this method may not be universally valid. If they based on inadequate data.
5. This method is highly abstract and refuse great skill in drawing inferences.

**1.8.2 INDUCTIVE METHOD:** In this method, principles or laws formed on inductive logic. Which involves the process of reasoning from a particular fact. Basing on the facts, general principles will be developed. Inductive method go up. This from particulars to generates, of hypothesis, generalisation of the principle and verification.

**MERITS OF INDUCTIVE METHOD:**

1. This method is concrete and synthetic and realistic, it based on facts and explain them as they actually are.
2. This methods helps in-future enquiries.
3. As statistical tools are marks most in this method, there is a significant improvement in analysing the economic problems.
4. This method is dynamic method because the changing economic phenomena can be analysed.
5. This method is more suitable in formulation of economic policies.

**DEMERITS OF INDUCTIVE METHOD:**

1. It is time consuming and costly.
2. Observation and experimentation have very limited application an a science which deals with human activities.
3. Definitions, sources and methods used in statistical analysis differ from investigator to investigator even for the same problem. Hence, statistical tools are lack of concreteness.
4. This method is useful for natural and physical sciences, but not social science which deals with human behaviour.

These two types of methods are needed for scientific thought as the right and left four are needed for walking.

## **1.9 IMPORTANCE OF ECONOMICS:**

Social science is the study of the totality of mass social behaviour. Development of the society is the main motto of all sciences. Man is the central focus. Economics is one among different social sciences which is very important theoretically as well as practically. For that reason, Mrs. Joan Robinson told that economics is a box of different economic tools which are useful for giving solutions for different economic problems.

1. Economic is useful to understand functioning of the economy. It will give solution to the three basic economic problems such as what to produce, how to produce and whom to produce.

2. It is helpful to know about market mechanism, price determination mechanism etc.,
3. It gives solution to the basic economic problem i.e., economising scarce resources for optimum utilisation of resources.
4. It suggests suitable tax policy to the economy.
5. Economics useful to analyse the different problems crop up during foreign trade viz : international trade, international finance, Balance of payment, Exchange rates etc.,
6. It gives the required condition for an economy to attain maximum economic welfare.
7. It useful to develop economic model for the economies.
8. It is useful to formulate economic policies for their development.
9. Economics provides various kinds of economic tools, such as, cost-benefit analysis, linear programming etc to analyse the economic problem. Finally, economics is very important because it give right directions to divert the economy in right path.

### **1.10 RELATIONSHIP WITH OTHER SCIENCES:**

Economics is a part of social science which studies the human behaviour. Economics occupies a respectable place among other sciences and it has intimately related political science, history, sociology, ethics, mathematics and statistics etc. The following discussion explains the relation of economics with some of the sciences.

**1.10.1 ECONOMICS - POLITICAL SCIENCES:** In the beginning, economics is called as political economy and now it is becoming more and more political economy. Economics explains the efforts to improve wealth and welfare, where as, political science explains the political conditions and institutions that influence the economic conditions on a country. Economics and Politics are act and react up on each other. Politics influence the economic conditions and politics are depend on economic situations. Politically colonialism of India is major cause for poverty and backwardness of India.

**1.10.2 ECONOMICS – HISTORY:** A record of part events is known as history. History explains the contemporary social, economic and political situations. By means of history, we can able to confirm or disprove old theories and discover new ones. History is largely contributed for formulation of theories such as trade cycles, economic growth, international trade etc. Hence, it has been well remarked Economic without History is no root, History with Economics is fruitless.

**1.10.3 ECONOMIC – SOCIOLOGY:** Sociology is the general science of the society. It studies the relationship of human beings with society Human relations, traditions etc and economic and ethical values etc are dealt in according sociology. Where as, Economics to Marshall is a study of mankind living in a society. Economics studies the economic aspects of the human beings living in a society in a specialised manner. The social life have a great influence on the economic organisation of the society and Economic set up influences the pattern of social life and social life. Hence these two sciences are interdependent. Example

Economic aspects such as population, mobility of labour etc influence the joint family system in the society.

**1.10.4 ECONOMICS AND ETHICS:** An Ethical values of the society are studied in 4 ethics. Economics is closely related with ethics. It is necessary that the Economic activities must be conducted on a moral plane. Economic development of a society will depend on moral values and sincerity of the individuals in that society. Anti-social activities or non-ethical activities such as black marketing, tax evasion, printing of fake currency etc. are creating negative effect on the society. Hence there is a proverb known as honesty is the best policy. Earlier economic thinker subordinated economics to ethics. But modern economists felt that economics is not concerned with the question right or wrong, good or bad. However, the influence of ethics on economics is inevitable in the study of normative economics or welfare economics.

**1.10.5 ECONOMICS – PSYCHOLOGY:** Psychology is made use in Economics. The law of choice, which is the most fundamental law of Economics, has a psychological basis. Mill described political economy as a moral or psychological science. Jevons made it even more psychological. To him the theory of economics was the mechanism of utility and say interest”, and texture based on a calculus of pleasure and pain”. Psychology of the consumer, producer, investor etc., are the basic determinants of economic principles.

**1.10.6 ECONOMICS – MATHEMATICS:** Economists have increasingly using the mathematics to build economic theories in the form of models. The tendency of using mathematics has led to the building of sophisticated, mathematical models. The relation between economic and mathematics has been increasing day by day. Besides the universality of mathematical language mathematical models afford exactness to economic to economic theories saving them from ambiguity. Econometrics is a subject developed by using the sophisticated mathematical tools in economics. Presently, mathematics is using almost all spheres of economics such as planning, international economics etc..

**1.10.7 ECONOMICS – STATISTICS:** An economists data are statistics. As Ludwig von mises has connected’, statistical figures referring to economic events are historical data. They tell us what happened in a non repeatable historical case”. These statistics concern measure of the total volume of production of various commodities; the number of employed; the volume of sales; the total amount of payments; index numbers of whole sale and retail prices etc. some of the data are collected by private bodies. Various kinds of statistical tools are used to develop economic law. Statistical information is very useful for planning of the economy. For that season, the student of economics should necessarily know the statistics. Because statistical tools are very useful for formulating economic laws as well as for giving solutions for economic problems.

## 1.11 SUMMARY:

Economics is a study of human behaviour between ends and scarce means which have alternative uses. The definitions of economics given by different economists are categorised into four, namely wealth definition, welfare definition, scarcity definition and growth definition. Economic problem arises due to scarcity of resources. The important thing in economics is choice. Hence economics is also called as science of choice.

Knowing of the subject matter of economics, whether economics is science or art, or is it a positive or normative science is essential to under the scope of economics. Ragnar Frish divided economics as micro and macro economics. Micro economics deals with individual units and macro economics deals with aggregates. These two are interdependent. The economic analysis made by taking time element is dynamic economics, where as, without taking time element is state economics. Like other sciences, economics is a science comprises of various principles, laws and models. There are two scientific methods to formulate economic principles viz., deductive method and inductive methods.

Induction is the process of seasoning from a part to the whole, from particulars to generals or from the individual to the universal.

### 1.12 IMPORTANT POINTS TO BE REMEMBERED:

1. Activities relating to economy or the activities that are dealt by economics are economic activities.
2. The basic economic problems are what is to produce, how to produce and whom to produce.
3. The definitions given for economics are four, namely, Adam Smith's wealth definition, Marshall's welfare definition, Robbin's scarcity definition and Samuelson's growth definition.
4. A systematic body of knowledge ascertainable by observation and experiment is called as science. The practical application of scientific principles is called as art. Economics is science as well as art.
5. Positive economics concerned to 'what is' and normative, economics is 'what ought to be'.
6. Economics which deals with the study individuals is micro economics, where as, economics which deals with aggregates is macro economics.
7. There are two scientific methods to formulate economic principle viz., deductive method and inductive method.

### 1.13 KEY CONCEPTS:

1. **Production** : Creation of utility or process of producing goods and services.
2. **Micro Economics** : A study of the economic actions of individuals or a small group of individuals. This may be called price theory.
3. **Macro Economics** : A study of the economic actions of aggregates. This may be called income theory.
4. **Deductive Method** : Deduces new conclusions from fundamental assumptions or from truths established by other methods.
5. **Inductive Method** : Inductive method involves the process of reasoning from particular fact to general principles.

6. **Positive Economics** : Positive economics concerned to 'what is'. This is pure science.
7. **Normative Economics:** Normative economics is 'what ought be'. This is an ethical science.
8. **Static Economics** : Economic analysis made without taking time element under consideration.
9. **Dynamic Economics** : Economic analysis made by taking time element under consideration.

### 1.14 MODEL QUESTIONS:

#### I. ESSAY TYPE QUESTIONS:

1. 'What-ever economics concerned with it is not concerned with material welfare' Discuss.
2. Define economics and write its scope.
3. 'Allocation of scarce factors with multiplicity of want is economics' – Discuss.
4. Write the two methods needed for scientific thought ? What are the merits and demerits ?
5. Define Economics. Write its relationship with other sciences.

#### II. SHORT ESSAY TYPE QUESTIONS:

6. Distinguish between micro and macro economics.
7. Critically examine the wealth definition.
8. Write the scope of economics.
9. Critically examine the welfare definition.
10. Write a note on Basic Economic Problems.

### 1.15 SUGGESTED READINGS:

1. Gould, J.P. and Ferguson, C.E : Micro Economic Theory
2. Samuelson P.A. & Norhaus W.D. : Economics
3. Jhingan, M.L. : Advanced Economic Theory
4. Dewett K.K. : Modern Economic Theory
5. Ahuja, H.L. : Principles of Micro Economics
6. Telugu Academy : Economic Theory
7. Telugu Academy : Business Economics

## **Lesson : 2**

# **BUSINESS ECONOMICS**

## **SCOPE AND IMPORTANCE**

### **2.0 OBJECTIVES:**

At the end of this lesson you will be able to know:

- \* Definitions of Business Economics
- \* Economic Principles for the Business Analysis
- \* Scope of Business Economics
- \* Importance of Business Economics

### **CONTENTS:**

- 2.0 Objectives**
- 2.1 Introduction**
- 2.2 Definitions of Business Economics**
- 2.3 Application of Economic Principles in Business Analysis**
  - 2.3.1 Principle of opportunity cost**
  - 2.3.2 Marginal Principle**
  - 2.3.3 Principle of Time Element**
  - 2.3.4 Discount Law**
  - 2.3.5 Equi - Marginal Principle**
- 2.4 Scope of Business Economics**
  - 2.4.1 Demand Analysis and Prediction**
  - 2.4.2 Analysis of costs and Revenues**
  - 2.4.3 Price Determination, Economic Policies and Implementation**
  - 2.4.4 Management of Profits**
  - 2.4.5 Management of Capital**
  - 2.4.6 Relationship with other sciences**
    - 2.4.6.(A) Relationship with Economics**
    - 2.4.6.(B) Relationship with Mathematics**

**2.4.6.(C) Relationship with Operational Research****2.4.6.(D) Relationship with Statistics****2.4.6.(E) Relationship with Accounting**

- 2.5 Chief characteristics of Business Economics and Role of Managerial Economist**
- 2.6 Summary**
- 2.7 Important Points to be Remembered**
- 2.8 Key Concepts**
- 2.9 Model Questions**
- 2.10 Suggested Readings**

**2.1 INTRODUCTION:**

Definitions of economics, scope, relationship with other social sciences are discussed in the previous lesson. This lesson deals with definitions of business economics, its scope etc... will be dealt in this lesson.

Application of economic theory to business management is known as managerial economics. This managerial economics is also called as business economics. Business Economics acts as a bridge between economic theory and business management. It is useful for identifying and analysing the problems that come across the business management. Presently business economics is not limited to business firms, its application is extended to the management of resources in government departments, universities and other organisations.

**2.2 DEFINITIONS OF BUSINESS ECONOMICS:**

Economics is a science that deals with human behaviour as a relationship between ends and scarce means which have alternative uses. The main problem in economics is 'choice'. Business Economics deals how business firm allocates its scarce resources in order to maximise its profits. So the main problem in business economics also 'choices'. In order to get an idea on business economics, it is essential to study the definitions of business economics given by various economists.

- 1. HAGUE, D.C:** Economics as using the logic of Economics, Mathematics and Statistics to provide effective ways of thinking about business decision problems.
- 2. WATSON:** Process theory explains the composition or allocation of total product - why more of some things is produced than of others.
- 3. M.C. NAIR AND MERIAM:** Managerial economics/presives economics consists of the use of economic modes of thought to analyse business situations.



4. **SPENCER AND SEIGELMAN:** Business Economics as the integration of economic theory with business practice for the purpose of facilitating decision-making and forward planning by management.
5. **M.C. GUIGAN AND MOYER:** Managerial Economics is the application of economic theory and methodology to decision making problems faced by both public and private institutions.

The above definitions on business economics reveals that business management involves many problems, business economics as a discipline gives analytical tools to solve those problems. In nutshell, business economics deals with the application of economic theory to business management.

### 2.3 APPLICATION OF ECONOMIC THEORY TO BUSINESS PRACTICE:

Business Economics provides a number of analytical tools to business economists to analyse the business situations. The utility of these tools depends on the skills of the business economist who practices them. Some of the tools which are widely used in business / managerial economics are discussed below.

- 2.3.1 **OPPORTUNITY COST PRINCIPLE:** The real cost of production of a given commodity is the next best alternative sacrificed in order to obtain that commodity is known as opportunity cost. The opportunity cost doctrine has a wide application in business field nationally and internationally. For example if a unit of land wants to put in a use of paddy, it has to forego from growing of wheat. If the land has only one use then the land opportunity cost is zero. The concept of opportunity is immensely used in business. For decision making, opportunity costs are the only relevant costs.
- 2.3.2 **MARGINAL PRINCIPLE:** Marginal Principle or incremental principle is widely used in consumption, production and distribution. Viz; Marginal utility, marginal cost, marginal productivity etc. This is used to find equilibrium of consumer / producer. Consumer will be at equilibrium where marginal utility is zero like wise producer will be at equilibrium where marginal productivity is zero. In this way, the principle applies to changes in prices, products, procedures, investments or what ever may be at stake in a business decision.
- 2.3.3 **PRINCIPLE OF TIME PERSPECTIVE:** Economics has brought the time element in decision making on output, prices, advertising and expansion of business. Based on the duration, Marshall has divided time into very short period, short period, long run, secular period. These time perspectives are utilised in business management in explaining price and output behaviour. The costs are classified into fixed and variable costs based on the time perspective. The time perspective principle is a very useful tool provided by the economics to the business economists in taking crucial decisions.
- 2.3.4 **DISCOUNT LAW:** This principle explains the fundamental fact that the present worth of the money is more than the future. Because future is uncertain and gives instability and uncertainty. Hence prefers present to future. The discount principle gives the future worth of an asset based on the present value. The discount principle is given by

$$PW = \frac{R_1}{1+i} + \frac{R_2}{(1+i)^2} + \dots + \frac{R_n}{(1+i)^n}$$

PW = Present Worth

i = Interest

$R_1, R_2, \dots, R_n$  = Perspective annual returns.

Basing on the above principle we can find present worth of money whose value after two years is RS: 100/- when the interest rate is 8 per cent per year.

$$PW = \frac{100}{1+i} + \frac{100}{(1+i)^2} = 85.73$$

This principle of economics is used in business economics.

**2.3.5 THE EQUI - MARGINAL LAW:** The principle which has immense use and is widely used in economics is the equi-marginal principle. The principle of equi-marginal utility, the principle of equi-marginal productivity are used to find out the consumer's equilibrium and producer's equilibrium.

**EQUI - MARGINAL UTILITY PRINCIPLE:** Marginal Utility (For consumer's equilibrium)

$$\frac{\text{of X good}}{\text{Price of X good}} = \frac{\text{Marginal utility of X good}}{\text{Price of Y good}}$$

(provided the consumer is using two goods X and Y)

Like wise, producer's equilibrium can be found out by using two inputs A & B.

$$\frac{\text{Marginal productivity of A factor}}{\text{Price of A factor}} = \frac{\text{Marginal Productivity of B factor}}{\text{Price of B factor}}$$

These principles are of great use in business economics. However, these principles have to be considerably refined and modified to suit the nature of the business enterprise.

The above discussion on various principles states that economics provides a variety of broad principles which are widely used in managerial economics. These principles may not be applicable directly to the business management. Hence, they should be updated, refined in order to suit the present environment so as to reap maximum benefits from these principles.

## 2.4 SCOPE OF BUSINESS ECONOMICS:

Business or managerial economics is an growing subject. As this is a developing science, it is difficult to explain the boundaries of the subject. The scope of the subject widens according to the growth of the subject. The discussion on the following fields gives the scope of business economics upto certain extent. They are

1. Demand Analysis and Forecasting
2. Cost and Production analysis
3. Pricing Decising policies and practices
4. Profit management
5. Capital Management and
6. Relationship with ophther sciences

**2.4.1 DEMAND ANALYSIS AND FORECASTING:** Business firms produces goods by transforming various productive resources. The production activity will be profitable only when the producer forecasts the accurate demand. Demand analysis facilitate the identification of the various factors affecting the demand for a firms product which helps the firm in manupuling the demand for its output one of the subjects that studied under business economics is demand analysis and fore costing the topics covered under this head is demand determinats, demand distinctions and demand forecasting.

**2.4.2 COST AND PRODUCTION ANALYSIS:** A firms profitability is depend on revenue and costs. But much on costs. The main topic under cost and production analysis are cost concepts, cost output relationships, economics and diseconomics of scale, cost control etc.

The analysis is useful to the business manager to prepare cost estimates of a range of output, identify the factors causing variations in costs and choose the cost minimizing output level, taking also into consideration the degree of uncretainty in production and cost calculation.

**2.4.3 PRICING DECISION, POLICIES AND PRACTICIES:** The important responsibility of a business manager is pricing of the firm products. The revenue and profits of a firm are depend upon the pricing decissions, policies and practices. The impartant topics that stadied under this head are market structure analysis, pricing practices, price are costing.

**2.4.4 PROFIT MANAGEMENT:** the main objective of business management is profit earning and profit maximisation. The success of a business firm is estimated on profit earning economics states that profits are reward for risk bearing and uncertainty. A successful business manager tries to reduced these risks and uncertainty and tries to maximise profits. An important and challenging area is business economics is profit planning and profit measurement.

**2.4.5 CAPITAL MANAGEMENT:** Another important responsibility of the business manager is capital management or planning capital investment. This is an area studied in business economics. Capital management requires top level decisions and it implies planning and control of capital expending. The topics which covered under capital management are cost of capital rate of return and selection of projects.

**2.4.6 RELATIONSHIP WITH OTHER SCIENCES:** The scope of business economics can be identified by studying the relationship with other sciences. The following discussion gives the relationship of business economics with economics, operational research, statistics etc...

**2.4.6(A) RELATIONSHIP WITH ECONOMICS:** Economic concepts, principles or modes of thoughts are applied to business economics. Economics has provided the tools, such as demand analysis cost analysis market analysis price determination time concepts etc... to business economics in addition, different wings of economics namely agriculture economics, labour economics, economic development, international economics, banking, public finance, rural economics, urban economics, welfare economics etc... providing various tools and those tools are widely using in business decisions.

**2.4.6(B) RELATIONSHIP WITH MATHEMATICS:** Mathematics provides various mathematical tools such as geometry, trigonometry and algebra which are not only essential but certain mathematical tools and concepts such as logarithms and exponentials, vectors determinants and matrix algebra and above all calculus, differential as well as integral are the hand maids. Mathematics. These discussion states that mathematics is an important subject which closely related to business economics. It provides mathematical tools not only to business economics but who other disciplines such as psychology, sociology, statistics and engineering.

**2.4.6(C) RELATIONSHIP WITH OPERATIONAL RESEARCH:** Operational Research is an inter disciplinang subject. This is an out come of mathematicious, statisticious, engineers and others teamed up together and developed models and analytical tools. Much of the development of the techniques and concepts such as linear programming, inventory models, game theory etc., is due to the work of the operational researchers. The significant relationship between business economics and operational research can be explained by using the operational research techniques in business problems, such as allocation problems, competitive problems waiting line problems and inventory problems. The above discussion reveals that there is close relationship between business economics and operational research.

**2.4.6(D) RELATIONSHIP WITH STATISTICS:** Statistics is a science which provides different statistical tools that are very useful in business management. Statistics is useful for business economics in several ways. Business economics calls for the marshalling of qualitative data and reaching useful measure of appropriate functional relationships. It employs statistical methods for empirical testing of economic generalisations. Statistical tools such as probability are useful to provide the logic for dealing with uncertainty of events. Basing on it, the future will be predicted by the business managers.

**2.4.6 (E) RELATIONSHIP WITH ACCOUNTING:** REcording of financial operations of a business is known as accounting and this accounting i.e. closely selected with business economics. The accounting information required for business economists to take business decisions. As such the relationship of accounting has been growing, the link between management accounting and managerial economics deserves special attention.

## **2.5 CHIEF CHARACTERISTICS OF BUSINESS ECONOMICS AND ROLE OF MANAGERIAL ECONOMIST:**

The chief features of business economics can be distinguished with business management and economics importance of business economics.

- (i) The nature of business economics is micro economics and it studies the problems at the level of firm or business unit.
- (ii) Business economics utilises the theory of markets and enterprises from micro economics.
- (iii) Business economics is pragmatic in nature and it does not involve in the critical controversies.
- (iv) Business economics is related to normative or welfare economics. It prescribes norms for policy making.
- (v) Lastly, Macro Economics which deals with the macro economic aspects such as national income accounting, business cycles, economic policies of the government etc are useful for business economics.

### **ROLE OF MANAGERIAL ECONOMIST:**

Firms Management / Business Management is the prime responsibility of business economist. The business of a firm is influenced by two kinds of factors known as external factors and internal factors. Policy of the government, weather conditions, actions of the rival etc are external factors there as investment amount, workers number, quality of output etc... are internal factors. The following are some of the responsibilities of business economists.

- (i) He studies the business environment formulate business plan by forecasting the economic environment.
- (ii) He helps the management in decision making relating to internal operations of the firm.
- (iii) He performs certain specified functions as consultants. Further specific functions such as demand forecasting, pricing etc will be done by business economist.
- (iv) He provides general intelligence service i.e., providing information, vast literature to the business management.
- (v) Participation of public debates on behalf of the management.

The above are some of the functions discharged by business economist. In nut shell, he discharges multifaceted role.

## 2.6 SUMMARY:

Like economics, business economics also deals with scarce resources and their distribution among different uses. Business economics is also called as management economics. Business Economics provides different economic principles for solving practical business problems. The subjects such as objectives, costs, price determination profit management capital management etc are come under the purview of business economics. Business Economics is fastly growing subject. It has been growing and developing sophisticated principles by taking different concepts and principles from various subjects such as economics, statistics, operational research etc. The dimension of business economics has fastly changing according to changing scenario of business.

## 2.7 IMPORTANT POINTS TO BE REMEMBERED:

1. Business Economics is called as management economics.
2. Economic principles such as opportunity cost principle, marginal principle, time principle, discount principle etc., are widely using in business economics.
3. Business Economics is fastly growing subject in the present scenario.
4. Business economics is very important subject in the field of business management. Now business economists are considered as very important persons in the field of business.

## 2.8 KEY CONCEPTS:

1. **Marginal Principle** : It is very important principle to find equilibrium of consumer, producer, market etc. This is also called as incremental principle.
2. **Opportunity, Cost** : It is the next best alternative sacrificed in order to obtain commodity.

## 2.9 MODEL QUESTIONS:

### I. ESSAY TYPE QUESTIONS:

1. Define business Economics and discuss its scope.
2. What is meant by business economics? Mention various economic concepts used in business economics.
3. Discuss the nature and scope of business economics.
4. Write the scope and importance of business economics.

**II. SHORT ESSAY TYPE QUESTIONS:**

5. Write various definitions of business economics.
6. How economic laws are use in business economics?
7. Write the relationship of Business Economics with other scioncs.

**III. SHORT QUESTIONS:**

8. Chief charecteristics of Business Economics.
9. Relationship of business economics with economics.
10. Relationship of business economics with operational research.
11. Business Economics
12. Scope of Business Economics

**2.10 SUGGESTED READINGS:**

1. Brigham, Eugene. F and Pappas, James. L : Managerial Economics
2. Seo. K.K. : Managerial Economics
3. Sivayya, K.V. Rao and Rao V.S.P. : Managerial Economics
4. Chopra P.N. : Business Economics
5. Telugu Academy : Business Economics (Telugu Version)

## **Lesson : 3**

# **DEMAND, UTILITY ANALYSIS PRODUCTION THEORIES DEMAND THEORY**

### **3.0 AIMS AND OBJECTIVES:**

In this part, what is demand, types of demand, determinants of demand, law of demand and exceptions are explained. By the end of this part you should understand the following points.

- \* What is demand, and types of demand
- \* Demand Function, determinants of demand
- \* Law of demand
- \* Exceptions to demand

### **CONTENTS:**

- 3.0 Aims and Objectives**
- 3.1 Introduction to Demand**
- 3.2 Determinents of Demand**
- 3.3 Demand and Law of Demand**
- 3.4 Demand Function**
- 3.5 Demand Schedule**
- 3.6 Demand Shecudle**
- 3.7 Types of Demand**
- 3.8 Reasons for Downward Slope from Left to Right of a Demand Curve**
- 3.9 Exceptions to the law of Demand**
- 3.10 Summery**
- 3.11 Points to Remember**
- 3.12 Key Concepts**
- 3.13 Model Questions For Examinations**
- 3.14 Selected Readings**



### 3.1 INTRODUCTION TO DEMAND:

Demand plays a very important role in Business sectors. Because sales and profits of a business company depends upon its demand. A firm will not live without any demand of its goods in the market. Failure and success of a firm depends on demand of the goods. A firm will mobilise resources based on the demand forecastings. Hence, business economists must study the demand and its related things.

### 3.2 DETERMINANTS OF DEMAND:

Demand for a good depends upon various factors. They are

1. **PRICE OF GOOD:** Price of a good depends upon its demand. A change in price leads a change in demand of a good. The demand falls when the price rises and vice versa.
2. **POPULATION:** In generally, demand for a good depends upon population of a country, and number of consumers of that country. Demand is high when the population is high and the demand is low when the population is low.
3. **INCOME AND WEALTH OF CONSUMERS:** A goods decreased is based an income of the consumers. If the income changes the quantities purchased will also change.
4. **TASTES AND HABITS OF CONSUMERS:** Demand for a good is based on tastes and habits of the consumers. Demand will change if the tastes and habits of the consumer will change.
5. **PRICES OF SUBSTITUTIONAL GOODS:** Demand for a good depends upon its substitute goods. The demand is high if then are more substitutes. Moreover, the prices of its substitutises effect its demand. For example, price of coffee effects demand for Tea. Demand for tee is high when the price of coffee is high. The demand for tea is low when the price of coffee is low.
6. **COMPLEMENTARY GOODS:** Complementary good is a related good. Demand for a good depends upon prices of its complementary goods. For example, demand socks depends upon prices of shoes.

### 3.3 DEMAND AND LAW OF DEMAND:

In generally, the demand for a commodity in the amount bought. But in economic tenurs demand mean economic power of a commodity arises when the person has desire you it, and has the ability and willingness to pay for it. The other words, the demand for a commodity is the amount bought at a given price and at a point of time

A peson desires to buy a car. This is his desire. However, the person has the ability to pay for it. But the person has not that ability. So, this is not demand in the same way, there is no demand for a car even though he is a million as has not desire to purchase a car. Hence, we need two things to demand for a commodity. They are desire for it and ability to buy.

**LAW OF DEMAND:**

The law of demand refers the relationship between price of a commodity and demand for it. The law shows, other things being equal "demand rises when the price falls and demand falls when the price rises". Hence, there is inverse relationship between price and demand.

**3.4 DEMAND FUNCTION:**

The function explains relationship between price of a good and demand for it is called demand function. Demand for a commodity depends upon not only its price but also on prices of other goods, income of the consumer, tastes and habits of the consumer etc., Technically this is written as :

$$D = f(P, Y, P_r, t) \text{ where}$$

D = Demand for a commodity

P = Price of the commodity

$P_r$  = Prices of substitutes and complementary goods

Y = Income of the consumer

In the above equation, it is hope that  $Y, P_r, t$  are fixed. Hence,

$$D = f(P)$$

**3.5 DEMAND SCHEDULE:**

A table, which shows the relationship between price and demand is called demand schedule. The demand schedule refers the amounts purchased by a consumer at various prices.

**Table No. 3.1**

**Demand Schedule**

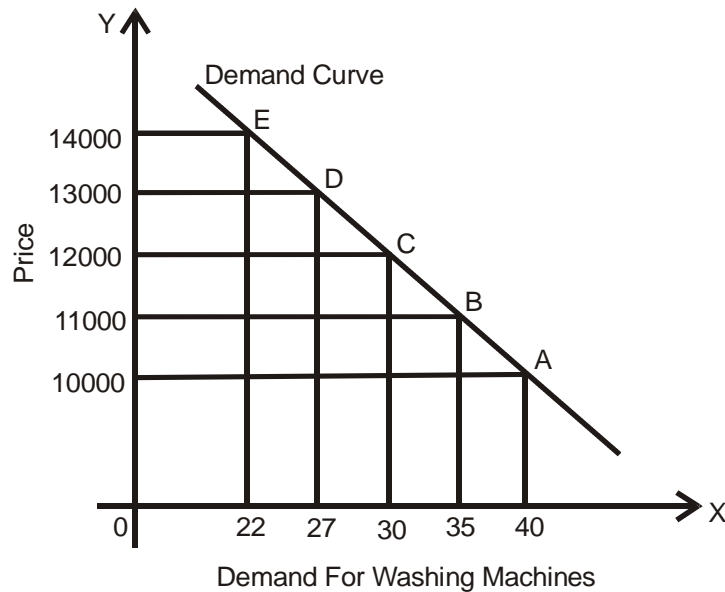
Price of Washing Machine(in Rs.)	Demand for Washing Machine
10000	40
11000	35
12000	30
13000	27
14000	22

The above Table - 3.1 shows that the consumers buy washing machines at various levels of price. Basing on the table it is said that there is inverse relationship between price and demand.

### 3.6 DEMAND CURVE:

A curve, which shows the relationships between price and demand is called Demand Curve.

**Diagram - 3.1**  
**Demand Curve**



In the above Diagram-3.1, we take demand for washing machines an X-axis and price of washing machines on Y - axis. It may be stated basing on the points, that the demand for washing machines are 40 at Rs. 10000 price level. If the price rises from Rs. 10000 to Rs. 11000 this demand falls from 40 washing machines to 35. In the same way the demand is decreasing when the price falls. The points A, B, C, D and E on the demand curve shows various demands at various prices. All these points are connected by a line, is called demand curve. The demand curve slopes downwards from left to right.

### 3.7 TYPES OF DEMAND:

Basng on the values of the demand curves, it is divided into various types. Which the following are the main.

1. Individual demand and market demand
2. Company demand and industry demand
3. Reciprocal Demand and Autonomus demand
4. Price demand, income demand and cross demand

**LET US NOW UNDERSTAND THE DEMANDS:**

- 1. INDIVIDUAL DEMAND AND MARKET DEMAND:** The demand of a commodity at various prices is the amount purchased during a period is called individuals demanded. The market demand is the sum totals of individual demands that are purchased at various prices.
- 2. COMPANY DEMAND AND INDUSTRY DEMAND:** A group of firms or companies producing a similar product is called industry. The demand for the products of the industry is called industry demand. For example, Demand for soaps in a country is considered as industry demand. Because manufacturing companies of soaps in a country is considered as an industry. It means combination of all firms which produce same goods or close substitution, is called an industry.

On the other hand, the demand for the product of a company is called company demand or firm's demand. For example, demand for Pears bath soap is called company demand. Because, different companies produce different soaps, all these soaps are substitutes with each other. Hence, demand for all these soaps is called industry demand. Let us examine industry and company demands with an example.

For example, the demand for all bath soaps in a certain period is 100 million units. But in that the demand for in that soap is 20 millions only. Hence the Cinthal soap's share is 20%, in the total demand. The total demand 100 millions demand is industry demand and 20 millions demand is company demand.

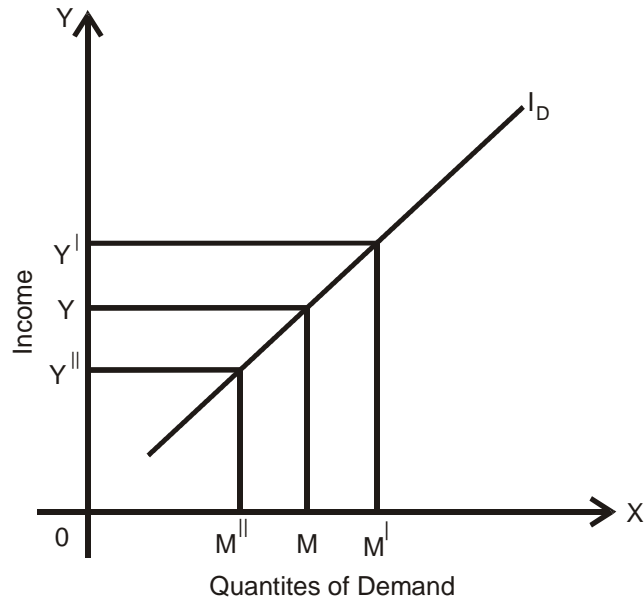
- 3. RECIPROCAL DEMAND AND AUTONOMOUS DEMAND:** Any good which may be desired for personal consumption by consumers is called Autonomous Demand or Direct Demand. For example, demand for food items, houses is called autonomous demand. Where as the reciprocal demand derived from Utonamus demand, but for construction a house we require brick, cement, iron etc., The demand for these is reciprocal demand. The demand for brick, cement depend on demand for houses. The demand for bricks rises when the demand for houses is increasing. When the demand for houses is decreasing the demand for bricks falls. In generally, demand for consumer goods is called Utomous demand and demand for producer goods is called indirect demand or reciprocal demand.
- 4. PRICE DEMAND, INCOME DEMAND AND CROSS DEMAND:** Other things being constant, the relationship between price and demand is called price demand. Price demand relationship is indirect or inverse. Other things being equal, a fall in price extends developed and a rise in price contracts demand.

Other things being equal, the relationship between income and demand is called income demand. The income demand relationship is direct.

Cross demand refers the relationship between prices of substitutes and complementary goods and their demand, when other things being the same. The relationship between price of substitutions and its demand is directly proportional. The relationship between price of complementary good and its demand is inverse.

The following diagram - 3.2 shows income demand. Generally, demand increases when income is increasing Demand decreases when income is decreasing

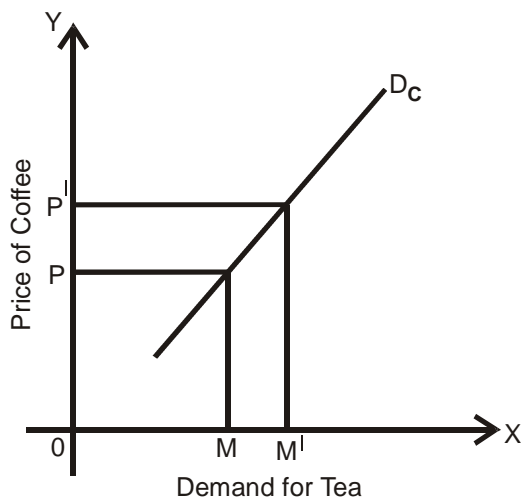
**Diagram - 3.2**  
**Income Demand**



In the above diagram - 3.2,  $I_D$  is income demand curve.  $OM$  is the demand at  $OY$  level of income. The demand increases from  $OM$  to  $OM'$  as income increased from  $OY$  to  $OY'$ . If the income decreased from  $OY$  to  $OY''$  the demand also decreased from  $OM$  to  $OM''$ .

Cross demand curve is shown in the following diagrams.

**Diagram 3.2(A)**  
**Substitute goods**



**Diagram 3.2(B)**  
**Complementary goods**

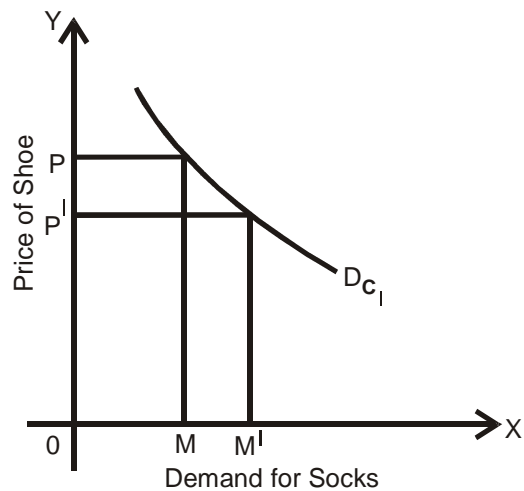


Diagram 3.2(A) shows cross demand for substitute goods and considered tea and coffee are as substitutes. It may be observed from the diagram - 3.2(A), as the price of tea rises, demand for coffee increases as people tend to substitute coffee for tea. The cross demand curve slopes upwards from left to right in the case of substitutes. When the price of tea is  $P$  the quantities of coffee powder purchased in  $OM$ . When the price of the rise from  $P$  to  $P'$  the demand for coffee increased from  $M$  to  $M'$ .

Diagram - 3.2(B) shows cross demand for complementary goods, shoe and socks. It may be observed from this diagram - 3.2(B) as the price of shoes falls, demand for socks increase. The cross demand curve in the case of complementary goods slopes downwards from left to right. When the price of shoe in  $P$  the decrease for socks in  $OM$ . When the price shoe falls from  $P$  to  $P'$ , the demand for socks increased from  $OM$  to  $OM'$  as shown in the diagram 3.2(B),

### **3.8 REASONS FOR DOWNWARD SLOPING FROM LEFT TO RIGHT OF A DEMAND CURVE:**

Generally, the demand curve slopes downwards from left to right. We understand the function of law of demand as UK study the reasons for downward sloping of a demand curve. The reasons are as follows.

1. As there is an inverse relationship between price and demand the demand curve slopes downward from left to right.
2. The law of demand is based on the law of diminishing marginal utility. According to the law of diminishing marginal utility each succeeding unit of a commodity gives less satisfaction than the preceding unit. Hence, for each additional unit a consumer is willing to pay a lower price. As the price falls, he tends to buy more and more units. As the price falls he tends to buy less and less units. Hence, the demand curve falls downwards from left to right.
3. Further, a fall in price induces old buyers to buy more and attracts new buyers. It causes to increase in demand. A rise in price deducts purchases of goods. It leads to decrease in demand. This is one of the reasons for downward sloping of a demand curve.
4. Substitution and income effects are considered as price effect. Income of the consumer affects the quantity of demand. This is an income effect. The real income of a consumer will increase where prices of goods decrease. It leads to an increase in purchases of goods. For example, a fall in price leads to buying more milk. A rise in the price of milk leads to buying less quantity of milk. That is why the demand curve slopes downwards from left to right.
5. Changes in the price of substitute goods affect demand. This is called a substitution effect. For example, as the price of coffee rises, keep the price of tea fixed, the demand for tea increases as people tend to substitute tea for coffee. Hence, the demand for coffee decreases. Thus, in the case of substitutes the demand curve slopes downwards from left to right.

6. The demand may be effected may not only by the above goods but also some of the other goods. As the price of a commodity falls it is put to more and more uses. As the price of a commodity rises it is put to less and less urgent uses. For example, if the price of electricity is lowered, the households may use electricity for looking and heating purposes also.

### 3.9 EXCEPTIONS TO THE LAW OF DEMAND:

There are some exceptions to the law of demand. There exceptions an aganist to the law of demand. The following are the same of exceptions to the law of demand.

1. **SUPERIOR GOODS:** Demand for some goods is high, because of their high prices. The consumer of such goods measure their desirability may their prices. For example diamonds and jewellery etc. The consumer estimates his status by their prices. Hence, they buy less of these goods at lower prices and it leads decreases in demand instead of increase. They buy more of these goods at higher prices. It needs to increase in demand instead of decrease.
2. **GIFTEN GOODS:** According to Sir. Robert Giffen the law of demand does not apply to necessary goods. This is called Giffen paradox. As rise in prices of necessaries goods leads to increase in demand for then. For example, a rise in the price of rice caused a severe fall in the real income of the poor people that they were forced to curtail consumption of other expenses and buy more of it, even its price rise. Thus, the demand for rice is constant even its price rise. This is called Giffen's Paradox.
3. **SPECULATION BUSINESS:** People even a further rise in price, buy larger quantity than before is called speculations business. A speculative person purchases larger quantitties when a rise in price and smaller quantities where a fall in price. Hence, a rise in price leads to increase in demand. Thus, speculation business is one of the exception for the law of demand.

### 3.10 SUMAMRY:

The demand for any thing at a given price is the amount of it which will be bought per unit of time at that price. This is effected my desire and purchasing power. The consumer buy more at lower price and less at higher price. The relationship between price and demand is inverse. Necessaries, Giffen goods and speculative business are exceptions to the law of demand. The relationship between income and demand is called income-demand. The relationship between the prices of substitute and complementary goods and its demand is called cross demand.

### 3.11 POINTS TO REMEMBER:

1. The demand for anything at a given price is the amount of it. Demand requires desire and ability to buy.
2. Demand for a commodity depends upon price of it, prices of substitutes and complementary goods, income tastes and habits, population etc.

3. The relationship between price and demand is called demand schedule. A curve which shows this relationship is known as demand curve.
4. The relationship between price and demand is inverse. The relationship between income and demand is positive in case of superior goods and it is negative in case of inferior goods. The relationship between the price of substitute goods and its demand is positive in case of substitute goods and it is negative in case of complementaries. The relationship between the price of complementary goods and its demand is inverse.
5. Giffen goods, superior goods and speculation business are not applicable to the law of demand. Hence, these are exceptions to the law of demand.

### 3.12 KEY CONCEPTS:

1. **DEMAND** : The demand for any thing at a given price is the amount of it.
2. **LAW OF DEMAND** : Other things being equal, demand rises when a fall in price, and demand falls when a rise in price.
3. **SUBSTITUTION GOODS** : A good which is used to represent of another good is called substitute good. For example, tea and coffee.
4. **COMPLEMENTARY GOOD** : A good, which is used along with other good is called complementary good. For example milk and sugar is used to make coffee.
5. **CROSS DEMAND** : The relationship between price of substitute or complementary good, and its demand.

### 3.17 MODEL QUESTIONS FOR EXAMINATIONS:

#### I. ESSAY QUESTIONS:

1. Explain the law of demand and write its exceptions.

#### II. SHORT QUESTIONS:

1. What is demand? Write different types of demands.
2. Explain the law of demand.
3. Why the demand slopes downwards from left to right?

#### III. VERY SHORT QUESTIONS:

1. Demand Function
2. Reciprocal Demand
3. Individual Demand and Market Demand
4. Company Demand and Industry Demand.



**3.14 SELECTED READINGS:**

1. Watson - Price Theory and Its uses
2. K.K. Dewett - Modern Economic Theory
3. M.L. Jhingan - Advanced Economic Theory
4. P.A. Samuelson - Economics
5. Stonier and Hogue - Micro Economic Theory
6. G.E. Fuguson - Micro Economic Theory
7. R.G.D. Allen - Mathematical Analysis for Economics
8. R.A. Bilas - Micro Economic Theory
9. Telugu Academy - Vypara Arthesasterm

## **Lesson : 4**

# **UTILITY ANALYSIS**

### **4.0 AIMS AND OBJECTIVES:**

Utility analysis is an important topic in this economics. The main objective of the consumer in the purchasing of goods and services is to satisfy his wants. In this part we should understand the consumer is in equilibrium in the purchasing of goods. By the completion of this point the students understand the following things.

- \* What is utility
- \* Types of Utility Analysis
- \* Law of diminishing marginal utility
- \* Law of Equi-Marginal utility
- \* Theory of Consumer surplus

### **CONTENTS:**

- 4.0 Aims and Objectives**
- 4.1 Cardinal Utility Analysis – Ordinal Utility Analysis**
- 4.2 Law of Diminishing Marginal Utility**
  - 4.2.1 Assumptions**
  - 4.2.2 Statement of the Law**
  - 4.2.3 Analysis of the Law through Table**
  - 4.2.4 Diagrammatic Representation**
  - 4.2.5 Exceptions to the Law**
  - 4.2.6 Criticism**
  - 4.2.7 Importance**
- 4.3 Law of Equi-Marginal Utility**
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- 4.3.6 Importance
- 4.4 Theory of Consumer Surplus
  - 4.4.1 Assumptions
  - 4.4.2 Statement of the Theory
  - 4.4.3 Diagrammatic Representation
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  - 4.4.5 Analysis of Hicks
  - 4.4.6 Importance
- 4.5 Key Concepts
- 4.6 Points to be Remembered
- 4.7 Model Questions for Exams
- 4.8 Selected Readings

## 4.1 CARDINAL UTILITY ANALYSIS, ORDINAL UTILITY ANALYSIS:

Utility analysis is an important topic in this economics. The main objective of the consumer in the purchasing of goods and services is to satisfy his wants. In this point we should understand who the consumer is in equilibrium in the purchasing of goods. By the completion of this point the students understand the following things.

What is utility

Types of Utility Analysis

Law of diminishing marginal utility

Law of Equi-Marginal utility

Theory of Consumer Surplus

There are two analysis to study the consumer's behaviour. They are 1. Cardinal Utility Analysis, 2. Ordinal Utility Analysis.

The word utility denotes the want satisfying power of a commodity or service. In general, the meaning of utility and usefulness is one and the same. The same good may give different utilities to different persons.

According to cardinal utility analysis, utility can be measured in members, or in units. By utility in psychological concept. So it can not be measured in terms of member or units. However, utility can be compared. Good A gives more satisfaction or less satisfaction then good B. but we cannot say by how much utility of one good is more or less than the utility of another.

Basing on cardinal utility analysis, law diminishing marginal utility, law of equi-marginal utility and the theory of consumer surplus were explained. These theories are explained as under.

## 4.2 LAW OF DIMINISHING MARGINAL UTILITY:

A German economist, Gossen was the first to explain the law. That's way this was called as Gossen's first law. Later Alfred Marshall gave a precise explanation to the law and named as law of diminishing marginal utility.

The law shows that the relation stays between a good and its utility. Marshall says "The additional benefit which a person derives from a given increase of stock of anything diminishing with every increase in the stock that he already has". The law based on the following assumptions.

### 4.2.1 ASSUMPTIONS:

1. Utility is measurable.
2. All the units of a commodity must be homogeneous.
3. There is a possibility to increase or decrease the quantity of goods.
4. The unit must be consumed in quick succession with equal time interval.
5. No change in the income of consumer.
6. then shall be not any change in the price of the commodity and the consumer know the price of goods.
7. There shall be not any change in the price of its substitutes.
8. The tastes and habits of consumer must remain unchanged.
9. The consumer must be rational in his conduct. It means consumer tries to get more satisfaction.

**4.2.2 STATEMENT OF THE LAW:** Based on the above assumptions the law of diminishing marginal utility was explained by Marshall. Marshall states the law thus : "The additional benefit which a person derives from a given increase of unit stock of a thing diminishes with every increase in stock that already has". According to Marshall marginal utility is zero when total utility maximum. At the point the consumer is in equilibrium. The same thing in explained is the following diagram.

**4.2.3 ANALYSIS OF THE LAW THROUGH TABLE:** Let us suppose that a consumer is f and q apples. As he consumers are apple after another he derives less and less satisfaction. We show this tendency with an imaginary table given below:

TABLE NO. – 4.1

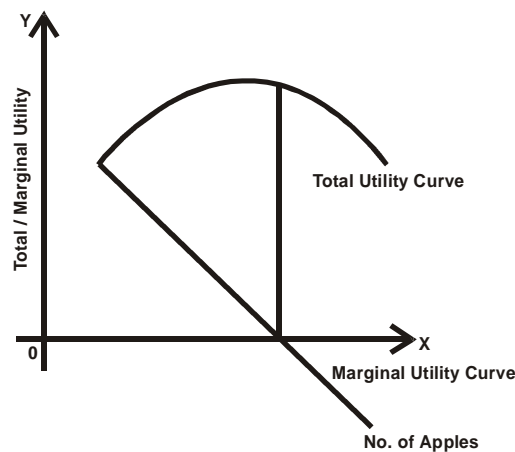
## TOTAL UTILITY

Quantity of Apples	Total Utility	Marginal Utility
1	20	20
2	38	18
3	53	15
4	63	10
5	63	0
6	50	- 13

From the above table it is seen that the marginal utility is decreasing when the quantity of apples is increased. The total utility is increasing up to the 5th apple and then decreasing. At the 5th apple the marginal utility is zero when the total utility is maximum. At this stage the consumer is in equilibrium.

**4.2.4 DIAGRAMMATIC REPRESENTATION:** We show the above information in the following diagram.

Diagram – 4.1



In the above diagram we take No. of apples as X – axis, Total and marginal utility on y – axis. The Total Utility Curve shows that the satisfaction derived from the whole stock. The Marginal Utility Curve shows that the addition to total utility resulting from the consumption of one more unit. The Marginal Utility Curve slopes down towards from left to right. Marginal utility is zero when total utility is maximum. At this stage the consumer is in equilibrium.

**4.2.5 EXCEPTIONS TO THE LAW:** The law of diminishing marginal utility has the following exceptions.

1. The law does not apply to drinkers. A drinker thinks that the additional unit of wine gives additional satisfaction without diminishing rates. But economists say that the law is applicable to drinkers after a peak stage.
2. In the case of rare collections, the law does not hold good. If, for instance a man is collecting ancient coins, the more he is able to collect the greater will be his satisfaction. Hence, in such cases, the law does not hold good.
3. The law does not apply to misers as it is said that more money he has, the more he wants.

**4.2.6 CRITICISM:** Some economists criticised Marshall's law of diminishing marginal utility as the following grounds.

1. Utility is psychological concept. So, it is not measurable.
2. The law applies only in the case of one good only. But does not apply to many goods.
3. The law does not apply within a certain time and homogeneous goods. Otherwise, the law will not apply.
4. If tastes and habits of the consumer are changed the law will not apply.
5. All goods are not independent goods.
6. The law does not explain price and substitution effects.
7. The marginal utility of money is not constant always.

**4.2.7 IMPORTANCE OF THE LAW:**

1. This law forms the basis of the theory and practice of taxation. Progressive system of taxation is based on this law.
2. The law shows that value of goods decreases when the quantity or supply of goods increases.
3. The law explains that why the demand curve slopes downwards. In other words, demand curve is a marginal utility curve.
4. It shows the difference between the value-in-use and value-in-exchange.
5. The law shows that the re-distribution of wealth in favour of the poor. The marginal utility to the rich of the wealth, that they might lose, is not so great as the marginal utility of the wealth which is transferred to the poor.
6. Some of the economic theory like law of demand, theory of equi-marginal utility, the theory of consumer surplus, elasticity of demand, are based on this law.
7. The law explains water demand and paradox.

**4.3 LAW OF EQUI-MARGINAL UTILITY:**

The law of diminishing marginal utility explains satisfaction derived by a person from successive goods. The law of equi-marginal utility shows marginal utility have been equalised,

through the process of substitution that we get maximum satisfaction. This law was framed by Gossen, but later it was explained by Marshall as theory. This law is based on the following assumptions.

#### 4.3.1 ASSUMPTIONS:

1. Utility can be measured.
2. No change in the income of consumer.
3. The prices of substitution goods are remain unchanged.
4. The law of operates based on the law of diminishing marginal utility.
5. the tastes and habits of consumer are fixed.
6. The marginal utility of money is fixed.
7. The main aim of consumer is deriving the greatest amount of satisfaction.

**4.3.2 STATEMENT OF THE LAW:** Basing on the above assumptions, Marshall states the law thus : “If a person has a thing which he can put to several uses, he will distribute it between these uses in such a way that it has the same marginal utility in all”. Take two goods A and B and marginal utility and prices are the same. Then the consumer is in equilibrium. This gives us the rule.

$$\frac{MV_A}{P_A} = \frac{MU_B}{P_B}$$

**4.3.3 ANALYSIS OF THE LAW THROUGH TABLE:** The consumer starts with Rs. 10 of income that he can spend. He is confronted with prices of A, B goods. The price of each good is one rupee. Then the consumer is ready to spend his income on these two goods by increasing his satisfaction by substituting are good for the other until the marginal utility of money is the same in both the cases. The following table gives these details.

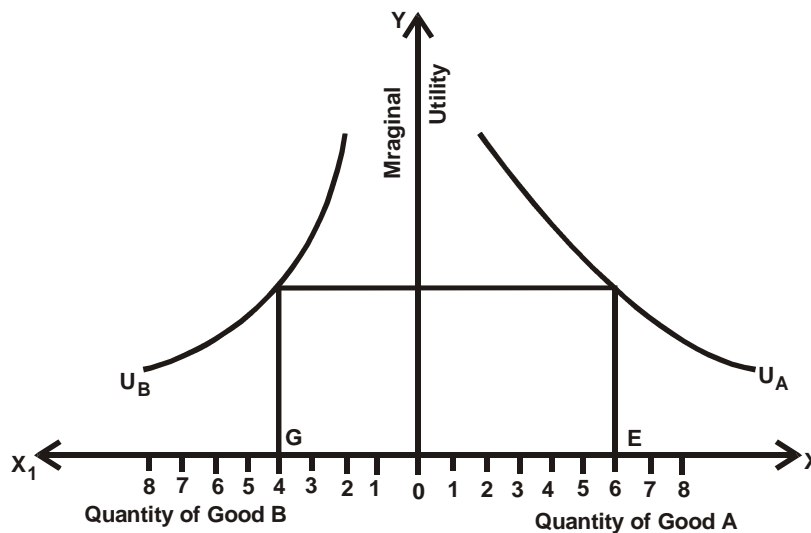
**Table 4.2**

Quality	Marginal Utility of Good A	Marginal Utility of Good B
1	40(1)	34(3)
2	36(2)	28(5)
3	30(4)	26(6)
4	24(7)	20(8)
5	16(9)	14(10)
6	10	10
7	8	9

From the above table, the consumer will spend his first and second rupees on good A. But the third rupee will spend on Good B and again the fourth rupee will spend on good A. The consumer gains by pushing his purchase of commodity upto his amount becomes zero. As long as the marginal utility of two goods is equal, the consumer buys more of the commodity. It means he will purchase 6 units of good A and 4 units of good B. Then he is in equilibrium.

**4.3.4 DIAGRAMMATIC REPRESENTATION:** In the following diagram, we take quantities of A, B are goods as X-axis, marginal utility of A and B goods as Y axis.

**Diagram - 4.2**



In the above Diagram U<sub>A</sub> shows the marginal utility curve of good A, U<sub>B</sub> shows the marginal utility curve of good B. The consumer will buy upto the marginal utility of A and the marginal utility of B are equal. Hence, the consumer buys OE level of A good, and OG level of B good. The consumer is in equilibrium. At this stage

$$\frac{MU_A}{P_A} = \frac{MU_B}{P_B}$$

**4.3.5 CRITICISM:** The law of equi-marginal utility was criticised on the following grounds.

1. Utility is psychological concept. There is no calculate.
2. Every good has complementary and substituting goods. But this law does not explain its effects.
3. This law does not apply, if the income of the consumer is changed.
4. The consumer



5. This law does not apply if the tastes and habits of consumer is changed.
6. Marginal utility of money is not constant always.

**4.3.6 IMPORTANCE:** In the real world, the law of equi-marginal utility analysis is famous in the following grounds.

1. The theory explains how a consumer get maximum satisfaction.
2. The law of ..... is based on the law of equi-marginal utility.

#### 4.4 CONSUMER SURPLUS:

The theory of consumer surplus is based on the theory of demand. In other words the theory of consumer surplus is based on the law of diminishing marginal utility. The theory of consumer surplus was first developed by Dupuit, a French engineer. Marshall called it as consumer's rent, later he analysed as consumer surplus. Afterwards, Hicks criticised this theory and analysed another utility theory, known as ordinal utility analysis.

The price which we pay for certain things do not measure their real worth. It means do not measure their real worth. It means that they give satisfaction more than the prices. Thus, there is surplus satisfaction the best examples of commodity giving surplus satisfaction and salt, post card, news paper etc.

Marshall says "The benefit which he gets from purchasing at a low price thing for which he would be willing to pay a high price than go without them, may be called consumer's surplus.

Consumer's Surplus = Demand Price - Market Price (or)

Consumer surplus = Price willing to pay - Price Actually paid

The theory of Consumer's surplus is based on the following assumptions.

**4.4.1 ASSUMPTIONS:** Marshall's theory of consumer's surplus theory is based on the following assumptions.

1. Utility is measurable.
2. The income of the consumer is fixed.
3. Every good is an independent good. It means utility of a good depends upon its quantity.
4. The marginal utility of money is constant.
5. Perfect competition situation exists in the economy.

**4.4.2 ANALYSIS OF THE THEORY:** The concept is deduced from the law of diminishing marginal utility. According to this law, the price which a consumer pays for a commodity equals marginal utility. It means that all the units of marginal utility are equal to the price which the consumer pays for commodity. Basing on this the following table is formed.

Table - 4.3

Goods	Total Utility (in Rs.)	Marginal Utility (in Rs.)	Price actual paid in (Rs.)
1	20	20	15
2	38	18	15
3	53	15	15
4	64	11	15

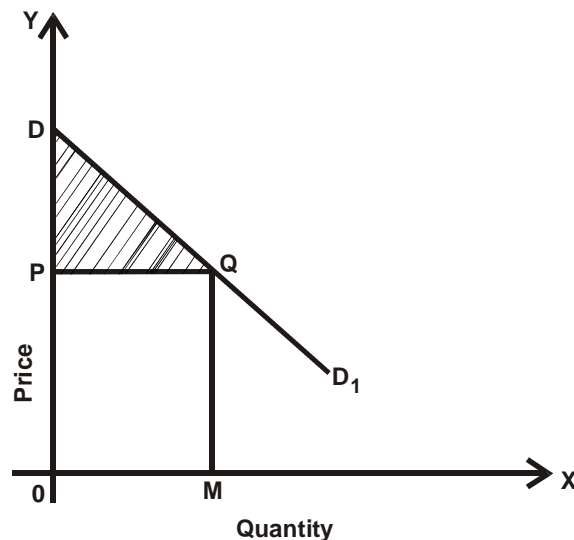
Let us suppose price of a good is Rs. 15. According to the Table 3.3, the consumer is willing to pay Rs. 20 to purchase the first good. Because the consumer gets Rs. 20 of marginal utility. But in the market price of the good is Rs. 15 and consumer pays it. So, the consumer's surplus is Rs. 5 (20-15). The consumer is interested to buy the second good at the rate of Rs. 18. But the market price of the good is also Rs. 15. So, on the second good the consumer's surplus is Rs. 3 (18 – 15). To purchase the third good the consumer is willing to pay Rs. 15. But this equal to market price. Hence, the consumer's surplus is nil. To purchase 4th good, the consumer is interested to pay Rs. 11, but the market price is Rs. 15. Hence the consumer didn't purchase the 4th good. In total, the consumer is interested to pay Rs. 53/- (20 + 18 + 15) to purchase first, second and third goods. But actually he paid Rs. 45/- (15+15+15) only.

Consumer's surplus = Demand Price – Market Price

Consumer's surplus = Rs. 53 – Rs. 45 = Rs. 8

**4.4.3 DIAGRAMMATIC REPRESENTATION:** To explain the theory of consumer's surplus. We take quantity on X-axis, price on Y-axis. DD' is a curve shows the demand curve or marginal utility curve. This curve shows that the additional benefit which a person derives from additional good. The curve slopes from left to right.

Diagram – 4.3



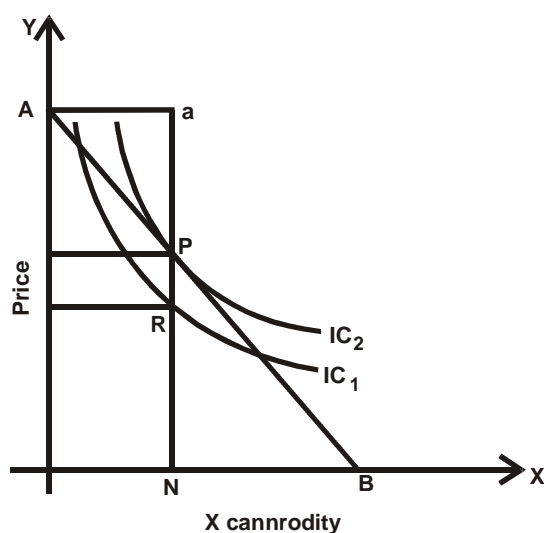
In the above diagram –3.3, the consumer buys OM level of quantity and pays OPQM. The total utility derived by him is ODQM. In other words the consumer is willing to pay ODQM price level but pays OPQM. So the surplus is PDQ.

Consumer's surplus = ODQM – OPQM = PDQ.

**4.4.4 CRITICISM:** The concept of consumer's surplus is criticised by Gobi, Tossing, Hicks, Samuleson etc. According to them theory is based some unrealistic assumptions. Moreover, there are so many difficulties to measure surplus.

**4.4.5 ANALYSIS OF HICKS:** Hicks analysed the theory of consumer's surplus through indifference curve analysis. The consumer's surplus is analysed in the following diagram.

**Diagram – 4.4**



In the above diagram, we take x commodity on X – axis, price on Y – axis. From the diagram, the consumer buys ON level of x commodity and paid QR price level. At this stage the consumer is on the IC, indifference curve. But ON level of x commodity is available at QP price level. Hence the consumer shifts from IC1 to IC2. Therefore the consumer's surplus is PR.

Willing price or demand price (QR) – Actually paid (QP) = Consumer's surplus (PR)

**4.4.6 IMPORTANCE:**

1. **Economic Policies:** It is useful to the governments in framing and implementation economic policies.
2. **Taxation Policy:** The concept is of special importance in taxation. The in-position of a tax on a commodity raises its price and reduces consumer's surplus. The government applies this law in the in-position of taxes.

3. **Monopoly:** The concept is useful to the monopolist in fixing the price of his product. The monopolist tries to maximise his profits. Through increase prices of his goods.
4. **International Trade:** The consumer's surplus theory is ..... in exporting and importing of goods in the international trade.
5. **Value-in-use and Value-In-Exchange:** The concept is useful to say difference between value-in-use and value-in-exchange.
6. **Economic Welfare:** The theory of consumer's surplus is useful to tax same measures to develop economic welfare.

#### 4.5 CONCLUSION:

The capacity of a commodity to satisfy a human want is called utility. These are two approaches to analyse a consumer's satisfaction which derives from utilisation of a good. According to the first approach utility is measurable which known as cardinal utility analysis. The second approach shows utility is cost measurable but comparable which known as ordinal utility analysis.

Basing the cardinal utility analysis the law of diminishing marginal utility analysis, law of equi-marginal utility analysis, theory of consumer's surplus was analysed. These three theories are very important in economics. But despite of same drawbacks in the theories J.R. Hicks analysed the ordinal utility approach.

#### 4.6 POINTS TO REMEMBER:

1. Cardinal utility analysis is changed as the basis of utility is un-measurable. It is also known as Marshall's utility analysis.
2. Ordinal utility analysis is analysed as the basis of utility is not measurable but comparable. It is known as Hicks utility analysis. According to this law, utility is a psychological feeling.
3. The law of diminishing marginal utility is analysed a consumer's equilibrium with one commodity. Whereas law of equi-marginal utility analysing in explained a consumer's equilibrium with two or more commodities.
4. The theories are very important in economics. The theories are useful to from taxation policy, in international trade etc.
5. These theories are based on the cardinal utility analysis. But this approach was criticised by some economists like Hicks and developed another approach known as ordinal utility analysis.

#### 4.7 KEY CONCEPTS:

1. **Utility** : The capacity of a commodity to satisfy a human want.
2. **Marginal Utility** : Additional benefit from additional good.
3. **Average Utility** : Division of total utility by number of commodity

4. **Consumer's Surplus** : The difference between demand price and market price.
5. **Progressive Taxes** : Tax rates are increased if the income increases.

#### 4.8 MODEL QUESTIONS FOR EXAMS:

##### I. ESSAY QUESTIONS:

1. Critically explains the theory of diminishing marginal utility analysis.

Ans: Write the law of diminishing marginal utility analysis, assumptions, limitations and importance.

2. Explain the law of equi-marginal utility analysis.

3. Explain the theory of consumer's surplus.

##### II. SHORT QUESTIONS :

1. Marginal Utility

Ans: Write the marginal utility with diagram.

2. Explain the limitation for law of diminishing marginal utility.

Ans: Write limitations of law of diminishing marginal utility.

3. Importance of law of diminishing marginal utility.

Ans: Write the importance of law of diminishing marginal utility.

4. Assumptions the law of diminishing marginal utility.

Ans: Write assumptions of law of diminishing marginal utility.

#### 4.9 SELECTED READINGS:

1. Stingler, G.J. : The Theory of Price
2. Watson, D.S. : Price Theory and its uses
3. Gould, J.P. & Ferguson, C.E. : Micro Economic Theory,  
Micro Economic Theory.
4. Ahuja, H.L. : Principles of Micro Economics
5. Seth, M.L. : Principles of Economics
6. Jhingan, M.L. : Advanced Economic Theory
7. Telugu Academy : Economic Theory

## **Lesson : 5**

# **ELASTICITY OF DEMAND**

## **5.0 AIMS & OBJECTIVES:**

In the previous chapter we have studied demand for a commodity depends upon the price of it. A fall in the price, leads generally to a change in demand. But the result is not the same in the case of all goods. Even the same goods have different demands at various times. For example, the demand for a good like salt is not very much affected by change in its price. On the other hand, change in the price of a good like Television sets to exert a considerable influence on the demand for them. The elasticity of demand refers the change in price leads to a change in demand. By the completion of this part you should understand the following things.

- \* Elasticity of demand
- \* Types of elasticity of demand
- \* Methods of measuring elasticity of demand
- \* Determinates of elasticity of demand

## **CONTENTS:**

- 5.0 Aims and Objectives**
- 5.1 Introduction**
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- 5.6 Income Elasticity of Demand
- 5.7 Cross Elasticity of Demand
- 5.8 Determinants of Elasticity of Demand
- 5.9 Importance of Elasticity of Demand
- 5.10 Summary
- 5.11 Points to Remember
- 5.12 Key Concepts
- 5.13 Model Questions For Examinations
- 5.14 Selected Readings

## 5.1 INTRODUCTION:

We have studied the law of demand, which shows that demand increases with a fall in price, and diminishes with a rise in price. It means a fall in price leads to a rise in demand and vice-versa. But we cannot understand that how much change in price leads to how much change in demand. This is shown by elasticity of demand.

Some times demand varies much and at other times little due even to the same change in price. There are certain goods whose demand does not contract much with the rise in their prices. While there are goods whose demand contracts much with the rise in their prices. Demand increases with a fall in price, and diminishes with a rise in price. Hence, the business man determines price of his selling goods basing demand for them. They divide profit or loss basing on price. Hence, there is a need to understand the elasticity of demand.

## 5.2 ELASTICITY OF DEMAND DEFINITION:

In general, elasticity means that an increase. But in economics elasticity means that may an increase or decrease. Elasticity of demand means change in price leads to a change in demand. It means that a rise or fall in price causes to a rise or fall in the demand is the elasticity of demand.

## 5.3 ELASTICITY OF DEMAND - TYPES:

In general, elasticity means that an increase. But in Economics elasticity means that may an increase or decrease. Elasticity of demand means change in price leads to a change in demand. It means that a rise or fall in price causes to a rise or fall in the demand in the elasticity of demand.

As we studied earlier there are certain factors which are determining the demand. Basing on the important factor of them, the elasticity of demand is classified into three types. They are:

1. Price Elasticity of Demand
2. Income Elasticity of Demand
3. Cross Elasticity of Demand

## 5.4 PRICE ELASTICITY OF DEMAND:

Price elasticity of demand refers the ratio percentage change in quantity demanded in response to a percentage change in price. Symbolically, it is shown as under.

$$\begin{aligned} \text{Price elasticity of demand (n)} &= \frac{\text{Proportionate change in quantity demanded}}{\text{Proportionate change in price}} \\ &= \frac{\text{Change in demand/previous demand}}{\text{change in price/previous price}} \end{aligned}$$

Basing on the elasticity is shown as symbols. Let us take an example,  $oa$  is the price of a good.  $ob$  is the quantity demanded. If the price falls from  $oa$  to  $oa_1$  leads to increase in demand from  $ob$  to  $ob_1$ , change in price ( $oa - oa_1$ ) is  $aa_1$  and change in demand ( $ob_1 - ob$ ) is  $bb_1$ . Now substitute these symbols in the above formulae, we get

$$\begin{aligned} n &= \frac{ob_1 - ob}{ob} \div \frac{oa - oa_1}{oa} \\ &= \frac{bb_1}{ob} \div \frac{aa_1}{oa} \end{aligned}$$

Symbolically change in indicated as  $\Delta$

Hence,

$$n = \frac{\Delta b}{ob} \div \frac{\Delta a}{oa} \quad \text{or} \quad \frac{\Delta b}{ob} \times \frac{oa}{\Delta a}$$

### Types of Price Elasticity of Demand :

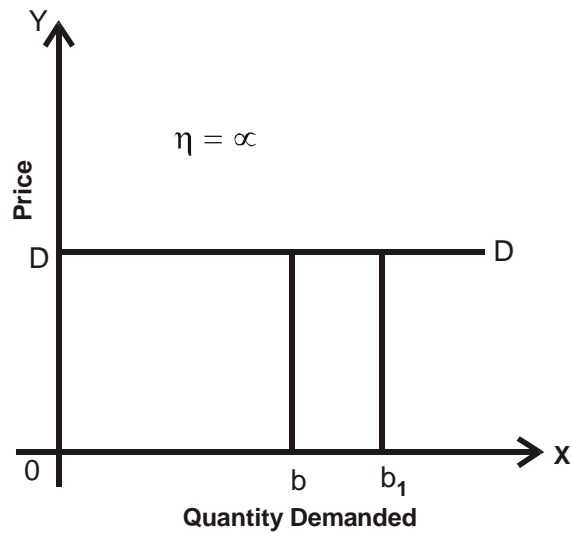
On the basis of numerical value of the elasticity of demand, we can classify the price classification of demand into five types. If the price elasticity of demand is equal to one, it is contains elastic demand. The price elasticity of demand is greaer than one, it is relatively elastic demand. The price elasticity of demand is less than one, it is relatively inelastic demand. The price elasticity of demand is infinitive, it is perfectly elastic. The price elasticity  $g$  is zero, it is perfectly inelastic. Different types of elasticity of demands are explained here under.

**5.4.1 PERFECTLY ELASTICITY OF DEMAND:** If a change in price of a commodity causes an infinitive large change in quantity of demand is called perfectly elastic demand. Symbolically, it is shown as  $\infty$  (infinitive).



The perfectly elastic demand curve slopes horizontally as shown in the following diagram.

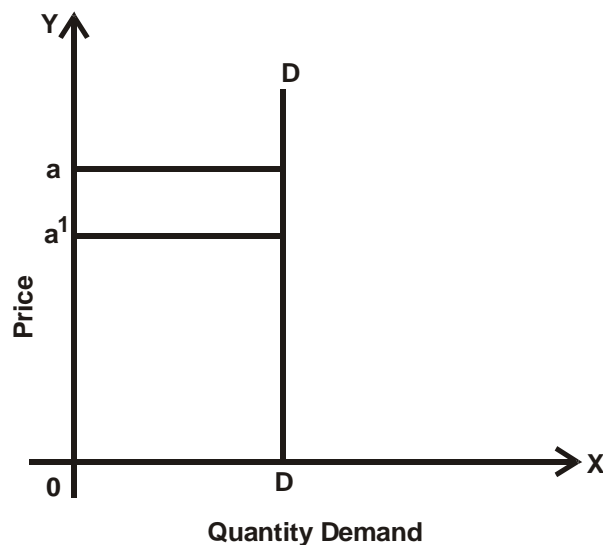
**Diagram 5.1**  
**Perfectly Elasticity of Demand**



In the diagram 5.1 we take quantity demand on OX - axis and Price on OY - axis DD is the demand curve. From the diagram 5.1 there is an infinitive change in demand without any respond in price. Hence, the demand curve is a horizontal straight line parallel to OX - axis.

**5.4.2 PERFECTLY INELASTICITY OF DEMAND:** When whatever the changes in price, there is absolutely no change in demand is called perfectly inelastic demand. It means the elasticity of demand is zero ( $n = 0$ ). This curve is a vertical straight line parallel to Y - axis. This is shown in the following diagram 5.2.

**Diagram 5.2**  
**Perfectly Inelasticity of Demand**

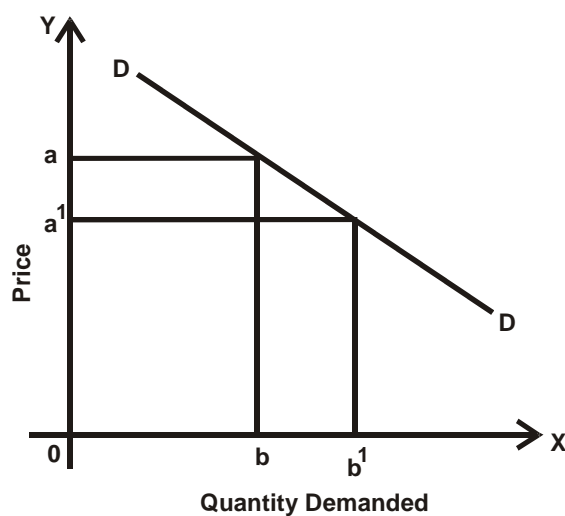


In the diagram 5.2, we measured quantity demanded on OX – axis, and price on OY – axis. Basing on the diagram – 5.2. Even the price changes or decreases from OA to OA<sub>1</sub>, then is no change in quantity demanded. This is called perfectly inelastic demand.

- 5.4.3 RELATIVELY ELASTICITY OF DEMAND:** When the change in demand is more than proportionate change to the change in prices is called relatively elastic demand. The slope of relative elastic demand curve is less. This is shown in the following diagram - 5.3.

**Diagram - 5.3**

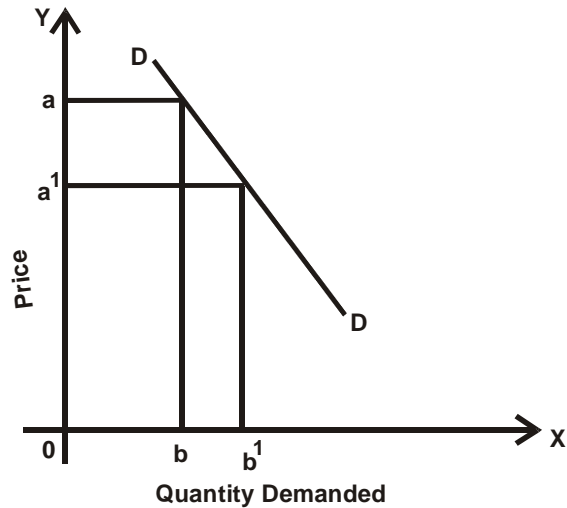
**Relatively Elasticity of Demand**



In the above diagram 5.3, DD is the demand curve, when the price falls from  $oa$  to  $oa_1$ , the demand increases from  $ob$  to  $ob_1$ . It means the proportionate change in demand ( $bb_1$ ) is greater than to the proportionate change in price ( $aa_1$ ). Hence, the elasticity of demand is greater than one ( $n > 1$ ).

- 5.4.4 RELATIVELY ELASTICITY OF DEMAND:** If, the change in demand is less than proportionate to the curve in price is called relatively inelastic demand. The slope of this curve is more. This is shown in the following diagram - 5.4.

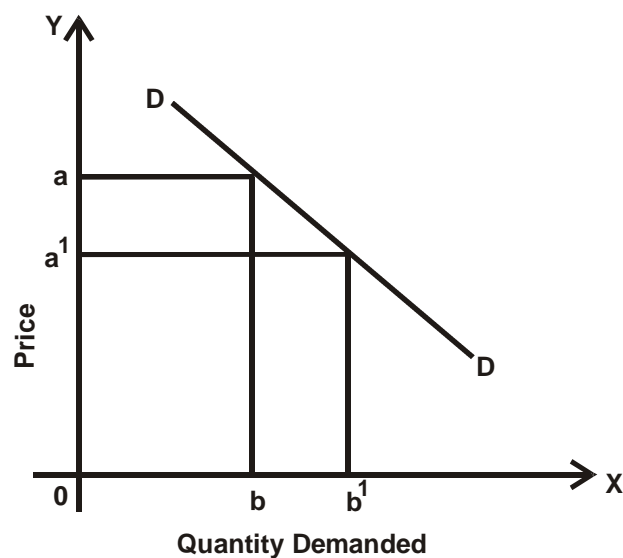
**Diagram - 5.4**  
**Relatively Inelasticity of Demand**



In the above diagram - 5.4, DD is the demand curve. When the price falls from  $oa$  to  $oa'$ , the demand increased from  $ob$  to  $ob'$ . It means that the change in demand ( $bb'$ ) is greater than the change in price ( $aa'$ ). This is called relatively inelastic demand. The value of demand is less than one ( $n < 1$ ).

**5.4.5 UNITY ELASTICITY OF DEMAND:** When the change in demand is exactly proportionate change to the change in price is called unitary elastic demand. Thus, the elasticity of demand in this case is unitary. Such a curve is called equilateral or rectangular hyperbola. This is shown in the following diagram - 5.5.

**Diagram - 5.5**  
**Unitary Elasticity of Demand**



In the above diagram - 5.5, the change in price equal to the change in quantity demand. This is called unitary elastic demand. The value of elasticity of demand in this case is equal to one ( $n = 1$ ).

## 5.5 METHODS OF MEASURING ELASTICITY OF DEMAND:

These are five methods to measure elasticity of demand. They are

1. Slope of the demand curve method
2. Percentage method
3. Point method
4. Arc method
5. Total expenditure method

These methods are analysed here under.

**5.5.1 SLOPE OF THE DEMAND CURVE METHOD:** This is a traditional method. Which measures the elasticity of demand. It is customary to measure elasticity with the gradient of a demand curve. A flat curve shows elastic demand and a steep curve less elastic demand.

A curve in the nature of a 45° line from Y - axis portrays unit elasticity. But the slope of the curve is not a reliable indicator of the degree of elasticity. The same curve may have different elasticity at the various points on a demand curve. This method of measuring elasticity is helpful only in the case of straight line curves on a graph with logarithmic scales over a small range of price and quantity. In fact, this method speaks of the slope of the demand curve and that of the elasticity of demand. For this we pass on to the other methods.

**5.5.2 THE PERCENTAGE METHOD:** The percentage method is one of the most satisfactory methods of measuring elasticity of demand. According to this method, the following formula can be used to measure elasticity of demand.

$$\text{Elasticity of demand (n)} = \frac{\text{Percentage in amount demand}}{\text{Percentage change in price}}$$

$$= \frac{\frac{\text{change in amount demanded}}{\text{previous demand}} \times 100}{\frac{\text{Change price}}{\text{Previous price}} \times 100}$$

If, we use symbols, the above algebraic formula is

$$n = \frac{\Delta q}{q} \times 100 \div \frac{\Delta p}{p} \times 100$$

In the above equation, '  $\Delta$  ' (delta) means a change, 'q' means demand and 'p' stands for price.

Let us now take an example to explain the percentage method of measuring elasticity.

Suppose 5 Kilograms of tomatoes are demanded at Rs. 10. If the price falls to Rs. 6, the amount demanded rises to 6 Kilograms. Elasticity of demand in this case as per the above formula will be

$$n = \frac{\frac{1}{5} \times 100}{\frac{4}{10} \times 100} = \frac{20}{40} = 0.5 < 1 \quad (\text{less elastic})$$

From the above solution, demand for tomatoes is inelastic as elasticity of demand is less than one ( $n < 1$ ).

Now, let us consider, the price falls from Rs. 10 to Rs. 6. The demand for tomatoes increased from 5 Kilograms to 10 Kilograms. Then the elasticity of demand is

$$n = \frac{\frac{5}{5} \times 100}{\frac{4}{10} \times 100} = \frac{100}{40} = 2.5 > 1$$

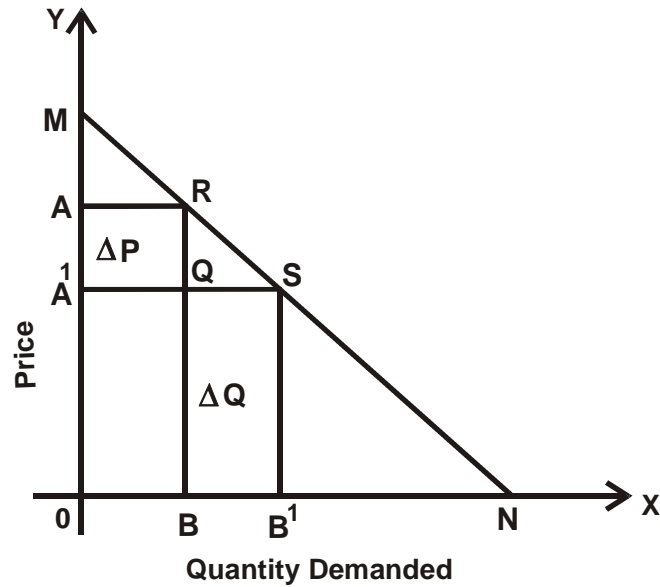
The elasticity value 2.5 is greater than one. Hence, this is relatively elastic demand. Let us now hope that the price falls from Rs. 10 to Rs. 6., the demand for tomatoes is increased from 5 Kilograms to 7 Kilograms. Now the elasticity value is

$$\eta = \frac{\frac{2}{5} \times 100}{\frac{4}{10} \times 100} = \frac{40}{40} = 1$$

Hence, this is described as unitary elastic demand.

**7.5.3 THE POINT METHOD:** Marshall derived the point method for measuring elasticity at a point on the demand curve. This is also called geometrical method. In this method, we take a straight line demand curve which tangents X and Y axis, to measure elasticity of demand. This is explained with the help of above formula as here under.

Diagram 5.6



In the above diagram 5.6, we take quantity demanded on OX axis and price OY axis. MN is demanded curve. This is extended upto X and Y axis. Demand for the commodity is OB at OA price level. If the price falls to OA' causes to increase in demand to OB'.

$$\text{Elasticity of demand } (\eta) = \frac{\text{Proportionate change in demand}}{\text{Proportionate change in Price}}$$

$$= \frac{\frac{\text{Change in demand}}{\text{Previous demand}}}{\frac{\text{Change in price}}{\text{previous price}}}$$

$$= \frac{BB'}{OB} \div \frac{AA'}{OA} \quad \text{or} \quad \frac{BB'}{OB} \div \frac{OA}{AA'}$$

From the above diagram, we can write the above as  $BB' = QS$ ,  $AA' = RQ$ ,  $OA = RB$ , and  $OB = AR$ . Thus, the above equation becomes

$$\eta = \frac{QS}{OB} \times \frac{RB}{RQ}$$

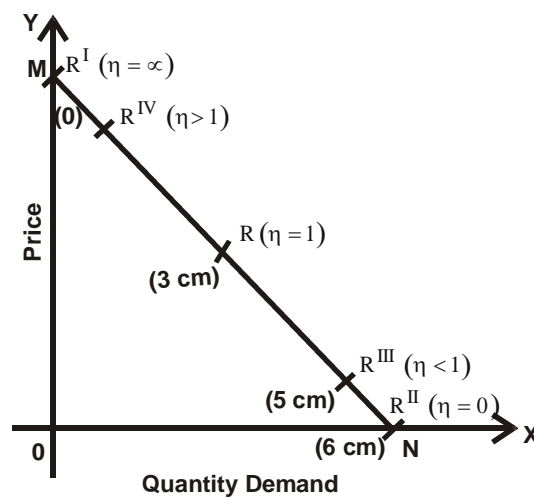
As  $\triangle RQS$ ,  $\triangle RBN$  are similar, the ratios of their sides is also equal. Hence,  $QS = BN$ ,  $RQ = RB$ . Now, the above equation becomes as under

$$\frac{BN}{RB} \cdot \frac{RB}{OB} = \frac{BN}{OB} \text{ is equal to the ratios of RN, RM.}$$

$$\text{Hence, } \eta = \frac{RN}{RM} = \frac{\text{Lower segment}}{\text{Upper segment}}$$

It is equal to measuring the elasticity at any point along a demand curve with the help of the point method. Suppose that the straight line demand curve is 6 centimeters.

**Diagram 5.7**



In the above diagram 5.7, point "R" is in the middle of the demand curve along with other points  $R^I$ ,  $R^{II}$ ,  $R^{III}$  and  $R^{IV}$ . So, elasticity of demand at these points are

$$R = \frac{RN}{RM} = \frac{3\text{cm}}{3\text{cm}} = 1 \text{ (Unity elasticity)}$$

$$R^I = \frac{R^I N}{R^I M} = \frac{6}{0} = \infty \text{ (Perfectly elastic)}$$

$$R^{II} = \frac{R^{II} N}{R^{II} M} = \frac{0}{6} = 0 \text{ (Perfectly inelastic)}$$

$$R^{III} = \frac{R^{III} N}{R^{III} M} = \frac{1}{5} = < 1 \text{ (Relatively inelastic)}$$

$$R^{IV} = \frac{R^{IV} N}{R^{IV} M} = \frac{5}{1} = > 1 \text{ (Relatively elastic)}$$

Basing on the lower segment and upper segments, we may measure this elasticity at various points on the demand curve.

**5.5.4 TOTAL EXPENDITURE METHOD:** There is another method to measuring elasticity of demand, which known as total expenditure method. A change in demand is a change in price that causes to increase in the total expenditure. By comparing the total expenditure of a buyer both before and after the change in price it can be known whether this demand for the good is elastic, similarly and inelastic demand for a good is elastic when the total expenditure increases, inelastic when then total expenditure falls and unitary when the total expenditure remains unchanged. With a fall or rise in the price of good. This is proved in the following table.

**Table 5.1**

**Table Showing Change in Demand in Change Price**

Price of Good (in Rs.) (1)	Quantity demanded (in units) (2)	Total expenditure (in Rs.) (3)=(1)x(2)	Elasticity of demand
10	500	5000	$\eta > 1$
8	700	5600	Elastic Demand
10	500	5000	$\eta = 1$
8	625	5000	Unitary elastic demand
10	500	5000	$\eta < 1$
8	600	4800	in elastic demand

We are enable to understand whether the demand is elastic or inelastic or unitary with this method. However, it is possible to understand the quality of elasticity of demand.

**5.5.5 ARC METHOD:** The arc method is an another method to measuring elasticity of demand. The arc means that a part in a curve. The elasticity of demand between two points on a demand is called arc elasticity. This is found by the following equation.

$$\text{Arc Elasticity of Demand} = \frac{\text{Change in demand}}{\text{Previous demand} + \text{Changed demand}} \div \frac{\text{Change in price}}{\text{Previous price} + \text{Changed Price}}$$

(or)

$$= \frac{\text{Changed in demand}}{\text{Previous demand} + \text{changed}} \times \frac{\text{Previous price} + \text{Changed price}}{\text{Change in price}}$$

With the help of the following diagram the arc method is analysed.



Diagram 5.8



In the above diagram 5.8, we measure quantity demanded on OX axis and price on OY axis. DD in this demand curve. OA is the starting price and OB is the standing demand.  $Oa_1$  and  $Ob_1$  are the low price and demands respectively. Now, basing on the above formula, elasticity of demand is

$$\text{Arc elasticity of demand} = \frac{bb'}{ob + ob'} \div \frac{aa'}{oa + oa'}$$

In other words, arc elasticity means average elasticity. Because, we took the previous demand and prices and changed demand and prices. The elasticity of demand is unitary when the value of elasticity is one. It is relatively elastic when the value is greater than one. It is relatively inelastic when the value is less than one.

## 5.6 INCOME ELASTICITY OF DEMAND:

Income is one of the main determinants of demand. There is a relationship between income and demand. It means that if the income rises, it leads to an increase in demand. If the income decreases, it leads to a decrease in demand. However, the income elasticity of demand refers to the change in the quantity demanded of a commodity in response to a change in the income of a consumer. This is explained with the help of the following formula.

$$\begin{aligned} \text{Income elasticity of demand} &= \frac{\text{Proportionate change in demand for commodity}}{\text{Proportionate change in the income of consumer}} \\ &= \frac{\text{Change in demand}}{\text{Previous demand}} \div \frac{\text{Change in income}}{\text{previous income}} \end{aligned}$$

The income elasticity of demand is unitary when the value of income elasticity of demand is equal to one. It is relatively elastic when the value of income elasticity of demand is greater than one. It is relatively inelastic when the value is infinite. It is perfectly inelastic when the value is zero.

## 5.7 CROSS ELASTICITY OF DEMAND:

Demand for a commodity depends upon not its price but also prices of its substitutes and complementary goods. The Gross Elasticity of demand is a measure of relative change in the quantity demanded for a commodity due to a change in the prices of its substitutes and complementary goods. The cross elasticity of demand of Y for X is found as in this following whenever.

$$\text{Cross elasticity of demand} = \frac{\text{Proportionate change in the demand for good X}}{\text{Proportionate change in the price of good Y}}$$

There is direct relationship between price of Y and demand for X when X and Y are substitutes. It means that the price of good Y increases which leads to increase in the demand for good X. If the price of good Y falls, that leads to decrease in demand for good X.

There is inverse relationship between price of Y and demand for X when there are complements. It means that the price of Y increases that leads to decrease in demand for X and vice-versa.

The demand is unitary elastic when the value of cross elasticity of demand is equal to one. It is relatively elastic when the value is greater than one. It is relatively inelastic when the value is less than one. It is perfectly elastic when the value is infinite. It is perfectly inelastic when the value is zero.

## 5.8 DETERMINANTS OF ELASTICITY OF DEMAND:

The elasticity of demand of a commodity depends upon the following factors.

- 1. NATURE OF THE COMMODITY:** We may say that the elasticity of demand for a commodity is based on nature of the commodity. Demand tends to be inelastic for necessities of life. Demand tends to be elastic for luxuries. For instance, the elasticity of demand for salt is inelastic. The elasticity of demand for television is elastic.
- 2. PROPORTION OF INCOME SPENT:** The elasticity of demand depends upon proportion of income spent of a consumer. If the proportion of one's income spent on a commodity is very small, demand for it does not change much for small changes in price. Demand in such cases tends to be inelastic.
- 3. MULTI USES:** If a commodity can be put to several uses its demand tends to be elastic. Every fall in its price induces people to put it to less urgent uses. Demand will increase considerably for all in price. For example, electricity can be used for lighting purpose. When its price is high. If the price will fall the electricity will be used for cooking purpose also.

4. **IF THE USE CAN BE POSTPONED:** If the use of a commodity can be postponed we shall buy it only when its price is sufficiently low. If its price rises we shall postpone buying it. This can happen in the case of durable goods like cloths, cycles, fans etc. In such cases demand tends to be elastic. If the use of a commodity can not be postponed, its demand tends to be inelastic as it will buy even though its price is rises.
5. **TASTES AND HABITS:** If the consumer's tastes and habits are fixed, the demand for such goods to be in elastic. For example, if the price of broke bond coffee changes, its demand does not change as the consumer's tastes it.
6. **LEVEL OF PRICES:** The level of prices determine elasticity. If the price of a thing is high its demand will be elastic. If the price is low, its demand will be inelastic.
7. **USING TIME OF A COMMODITY:** Using time of a commodity determines the elasticity of demand. The elasticity of demand is greater in the long run than in the short run for the simple reason that the consumer has more time to make adjustments in his scheme of consumption.
8. **LIFE TIME OF GOODS:** The demand for superior goods is elastic and the demand for inferior goods is inelastic.

## 5.9 IMPORTANCE OF ELASTICITY OF DEMAND:

The concept of elasticity of demand has great practical importance in economics. It is required to take some economic decisions.

1. **PRICE DETERMINATION UNDER MONOPOLY:** A monopolist has to study the elasticity of demand for his product. He to get more profits with determining lower price for those goods have elasticity demand high price for those goods hence inelastic demand.
2. **PRICE DETERMINATION UNDER DISCRIMINATING MONOPOLY:** In discriminating monopoly, the monopolist will fix the price of this goods at different markets based on elasticity of demand. A monopolist will fix a higher price in the least elastic market are lower price in the higher elastic market.
3. **PRICING IN PUBLIC UTILITIES:** The concept is useful in public utilities, which are provided by state enterprises. The Governments will fix a higher price in the case of least elasticity of goods. For example, the electricity department is fixing higher price for the supply of electricity to households as its inelastic. Whereas the electricity department is fixing lower prices in the case of higher elasticity of good to industries as its elasticity.
4. **PRICE DETERMINATE A JOINT PRODUCTS:** The concept is useful in the price determination of joint products. It is not quite possible to estimate separate costs production of money joint markets like wool and mutton, paddy and hay etc. Hence, the prices of such goods are fixed basing on their elasticity of demand. A high price in fixed for that product for which demand is inelastic and low price is fixed for that product for which demand is elastic.

5. **WAGE FIXATION:** Wages of labourers are low, when the elasticity of demand of labourers is elastic in a firm as trade unions are unable to rise their wages. If the demand for labour is inelastic, the employees can rise their wages.
6. **GOVERNMENT POLICIES:** Elasticity of demand is useful to governments to take some critical decisions in different sectors. Mainly, it is useful in the determination of supporting prices for agriculture products.
7. **INTERNATIONAL TRADE:** The concept of elasticity of demand is useful in international trade. It is useful in exports, imports, exchange rates etc.

### 5.10 SUMMARY:

Other things being equal, the law of demand states that a fall in price extends demand and a rise in price contracts demand for a good. However, the elasticity of demand shows that the ratio of percentage change in price. It's demand is elastic when the change in demand is greater than the change in a price, in elastic when it is less than and unitary when it is equal. These are five methods to measure the elasticity of demand. They are slope of the demand curve, point method, arc method, total expenditure method, and percentage method. It is useful in price determination under monopoly, taxation, international trade etc.

### 5.11 POINTS TO REMEMBER:

1. The elasticity of demand is classified as price elasticity of demand, elasticity of demand and crop elasticity of demand.
2. The price elasticity of demand is five types. They are perfectly elastic ( $\eta = \infty$ ), perfectly inelastic ( $\eta = 0$ ), relatively elastic ( $\eta > 1$ ), relatively inelastic ( $\eta < 1$ ) and unitary elastic ( $\eta = 1$ ).
3. Slope of the curve, percentage method, point method, arc method, and total expenditure method are the methods to measure elasticity of demand.
4. The elasticity of demand determines by nature of commodity, proportion of income spent, multi uses, use can be postponed, tastes and habits, and using time of commodity.
5. The elasticity of elasticity of demand has great practical importance in economics. It is useful in the price determination under monopoly, pricing in public utility, wage fixation, international trade etc.

### 5.12 KEY CONCEPTS:

1. **Elasticity of Demand** : A change in the demand for a commodity is response to a change in the price of it.
2. **Perfectly Elasticity of Demand** : If a change in price of a commodity causes an infinitely large change in quantity of demand is called perfectly elasticity of demand.

3. **Perfectly inelasticity of Demand** : When what ever the change in price, there is absolutely no change in demand is called perfectly inelastic demand.
4. **Relatively Elasticity of Demand** : When the change in demand is more than proportional change to the change in price is called relatively elasticity of demand.
5. **Relatively inelasticity of Demand** : When the change in demand is less than proportionate change to the change in price is called relatively inelastic demand.
6. **Unitary Elasticity of Demand** : When the change in demand is exactly proportionate change to the change in price is called unitary elasticity of demand.
7. **Arc Elasticity of Demand** : The elasticity of demand between two points on a demand curve is called arc elasticity of demand.

### 5.13 MODEL QUESTIONS FOR EXAMINATIONS:

#### I. ESSAY QUESTIONS:

1. Explain the different methods to measuring elasticity of demand.

#### II. SHORT QUESTIONS:

1. What is elasticity of demand? Explain different types of elasticity of demand.

#### III. VERY SHORT QUESTIONS:

1. Price Elasticity of Demand
2. Income Elasticity of Demand
3. Cross Elasticity of Demand
4. Percentage method
5. Point Method
6. Arc Method
7. Total Expenditure Method

### 5.14 SELECTED READINGS:

1. Stonier and Hange : A Text Book of Economic Theory
2. Sundaram, K.P.M. : Business Economics
3. Ahuja, H.L. : Principles of Micro-Economics
4. Dewett, K.K. : Advanced Economic Theory
5. Telugu Academy : Arthesastra Siddhanthalu

## **Lesson : 6**

# **PRODUCTION**

### **6.0 AIMS & OBJECTIVES:**

In this part, we explain factors of production and various theories of production. By the end of this part you should understand the following topics.

- \* What is Production?
- \* Factors of Production and their characteristics
- \* Production Function
- \* Changes in proportion and changes in scale
- \* Law of Variable Proportions
- \* Law of Returns to Scale
- \* Internal and external economics

### **CONTENTS:**

- 6.1 Introduction**
- 6.2 Factors of Production**
  - 6.2.1 Land**
  - 6.2.2 Labour**
  - 6.2.3 Capital**
  - 6.2.4 Organisation**
- 6.3 Production Function**
  - 6.3.1 Changes in Proportion and Changes in Side**
- 6.4 Law of variable Proportions**
- 6.5 Law of returns to scale**
- 6.6 Internal and External Economics**
  - 6.6.1 Internal Economics**
  - 6.6.2 External Economics**
- 6.7 Summary**
- 6.8 Points to Remember**
- 6.9 Key Concepts**
- 6.10 Model Questions for Examinations**
- 6.11 Suggested Readings**

## 6.1 INTRODUCTION:

Generally, production means creation of a thing. But in economics, creation of utilities is called production. Modern economists say that production means transformation of physical inputs into output. People buy some goods and services to satisfy their wants. Such goods have exchange value. Creation of these goods is called production. In simple terms, in economics, production means creation of form utility, time utility, moreover, services of doctors, teachers, lawyers etc... are also called creation of utilities.

## 6.2 FACTORS OF PRODUCTION:

Resources used for the production of a product is called factors of production or inputs. The factors of production are four types. They are:

1. Land
2. Labour
3. Capital and
4. Organisation

**6.2.1 LAND:** In ordinary speech 'land' means soil. But in economics, the term 'land' is used in a much wider sense. Land includes all the free gifts of nature which yield income like agriculture, land mines, fisheries, buildings, rivers, forests, wells, etc... In the words of Marshall, land means "the materials, and the forces which nature gives freely for man's aid in land and water, in air light and heat".

**CHARACTERISTICS OF LAND:** In contrast to the other factors of production land presents certain well-marked peculiarities.

1. Land is nature's gift and land is fixed in quantity.
2. Land is permanent. Hence, it is indestructible.
3. It is nature's gift to man hence we can not increase or decrease the area of land.
4. Land lacks mobility. Hence, we can not shift the land from one place to another.
5. No two pieces of land are exactly alike either in fertility or situation. Some lands are made fertile and some lands are less fertile.
6. Since land is free gift of nature, it has no cost of production.
7. The law of variable proportions will apply.

### IMPORTANCE OF LAND:

1. Economic development of a country depends upon its quality of land. A country with develop with more fertile land.
2. The development of basic industries like, agriculture, mines, forestry, etc.. depends upon the quality of land.

3. Development of roads and communications based on the upper layer of land. Construction of roads in forest areas and railway trucks is expensive which compared with other places.

**6.2.2 LABOUR:** Any work, whether manual or mental, which is under taken for a monetary consideration is called 'labour' in economics. In marginally words "Any execution of mind or body undergone partly or wholly with a view to some good other than the pleasure derived directly from the work, is called 'labour'.

**PECULATIONS OF LABOUR:**

1. Labour is perishable. If a day is lost it is lost for ever. So, labourers cannot postpone the sale of their labour.
2. Labourer has a very weak bargaining power when compared with the organiser.
3. Labour participates actively as means of production then other factors, like land and capital.
4. Labour is inseparable from labourer. This is special the character of labour.
5. Labour has lack of mobility. Differences in customs, language, climate, race etc. Prevent the free mobility of labour between different places. Adam Smith has therefore observed that of all sorts of language man is the most difficult to be transported.
6. Supply of labour is inelastic as it is not increased or decreased to response to a fall or rise in wages.

**IMPORTANCE OF LABOUR:** Labour has very important in production of goods. It is not possible to use natural resources without labour. Moreover, a country can be achieved higher growth rate with skilled labour even the country has not sufficient natural reasons. Karl Mark has therefore observed labour was the only factor of production. Hence, labour plays a wider role in the modern production process.

**6.2.3 CAPITAL:** Plant and machinery, tools and accessories, stocks of raw materials, goods in process and fuel etc., which are used in production process, is 'capital'. Capital is known as produced means of production. According to Marshall, land means that all those goods which are not nature's a gift, and gets income wealth. However, wealth does not always mean capital but capital does always wealth.

**CHARACTERISTICS OF CAPITAL:** Capital has the following the characteristics even it is produced means of production.

1. Generally people saves their income. These savings creates capital. Hence, capital is produced means of production.
2. It assists labour in production of wealth.
3. It must not be used in producing goods along with other factors.
4. It has more mobility than other factors of production.
5. It has elasticity of supply. It means that it is possible to increase or decrease capital.



**IMPORTANCE OF CAPITAL:** Capital plays a vital role in the modern productive systems. Production without capital is hard for us even to imagine. Capital supplies the raw materials for manufacturing goods. Capital occupies a century position in the process of economic development. In fact, capital formation is the very core of economic development.

**6.2.4 ORGANISATION:** The fourth factor of production is organisation or enterprise which is supplied organiser or entrepreneur. The factors of production are owned by different persons. And they lie in different places. There must be a person to bring these factors together, combine them, organise production and undertake the risks and uncertainty of production. The person who performs all these functions is known as 'organiser' or 'entrepreneur'. He decides what to produce, where to produce and how to produce. He pays wage for labours rent for land and interest on capital.

**FUNCTIONS OF THE ORGANISER:** The following are the functions of an organiser:

1. The entrepreneur must decide what his firm shall produce, how much shall be produced, what methods of production shall be used and where his firm shall be located.
2. He brings all the factors together and combines them in right proportion.
3. He gathers capital.
4. He gathers technology.
5. He fixes price for his product and sell them in markets.
6. He introduces innovations in production process.
7. He is an uncertainty bearer.

Basing on the above discussion, the organiser plays a vital role in production activities. The productivity of a country depends upon its organisers. Thus, he may be considered as captain of this firm or industry.

**CAPITAL FORMATION:** Capital formation means the increase in the stock of real capital in a country. In other words capital formation involves making of more capital goods such as machinery tools, factories, buildings etc., increase in the total capital is called total capital formation. But there is depreciation in machinery etc. in every year. Thus, subtract the depreciation from the total capital formation then we get net capital formation. The capital formation is determined by tax policy, interest rates etc.

Capital formation takes place in three stages. They are : Creation of savings, mobilisation of savings and investment of savings in real capital. Creation of savings depends upon income of the people in country. Mobilisation of savings depends upon banking sector and investment of savings depends upon organisers in the country.

### 6.3 PRODUCTION FUNCTION:

The functional relationship between physical inputs and physical outputs is called production function. The production function analyses production capacity of a firm or industry or economy basing on technological position. This is analysed by the following material equation.

$$P = f(L, K, N, T)$$

where P = Production of goods

L = Labour

K = Capital

N = Land

T = Technology

From the above, the production function shows production depends upon land, labour, capital and organisation. It also refers change in factors of production causes to change in production.

**6.3.1 CHANGE IN PROPORTION AND CHANGE IN SCALE:** In the production function, the quantity of a factor is increased by equal amounts, the quantity of other factors remaining fixed, is called change in proportion. It means change in proportion is in short-run. Based as the change in proportion the law of variable proportions was framed. The quality of all factors of production is increased by equal amounts is called change in scale. The law of variable proportions was framed. The quality of all factors of production is increased by equal amounts is called change in scale. The law of returns to scale was framed based on the change in scale.

## 6.4 LAW OF VARIABLE PROPORTIONS:

Quantity of production of a firm depends upon its factors of production, land, labour, and organisation. If the firm will hope to increase its production, it must be change the quantities of factors of production. Let us hope that the firm decides to increase are factor by equal amounts, the factors of production remaining fixed. The increased factors is called variable factors of production and fixed factors are called fixed factors of production.

The law of variable exhibits the relationship between variable factors of production and output. When other factors of production is fixed, the quality of any factor is changed by equal amounts resulting increments of the production will increase, but after a point, at a diminishing rate. The law of variable proportions is also known as the law of diminishing returns. The law was developed by both classical and neo-classical economists. According to stigler, "As equal increments of are input are added, the inputs of other propduction services being held constant, beyond a certain point, the resulting increments of product will diminish". Let us now understand the main concepts that are used in the law of variable proportions.

### TOTAL PRODUCT:

The total product of different factors of production is the total output obtains from its use or the total product of 'N' units of a factor is the total output from its use. A change in a factor of production leads to change in the total production while other factors of production remains unchanged.

**AVERAGE PRODUCT:**

It will be obtained by dividing total product each time with the number of factors employed.

$$\text{Average Product} = \frac{\text{Total product}}{\text{No. of units of variable factors}} = \frac{TP}{Q}$$

**MARGINAL PRODUCT:**

It is the addition made to the total product when one more unit of variable factor is employed, keeping other factors constant. This is obtained by the following formula.

$$\text{Marginal Product} = \frac{\text{change in total product}}{\text{change in units of variable factor}} = \frac{\Delta TP}{\Delta Q}$$

**THE LAW OF VARIABLE PROPORTIONS:**

The law of variable proportions is based on the following assumptions.

1. Only one input is variable while others are held constant. Labour is considered as variable factor and other factors, land, capital, are considered as fixed factors.
2. There is a possibility to increase or decrease the factors of production.
3. All the units of variable factor are homogeneous.
4. There is no change in technical knowledge.
5. The perfect market competition exists.

**THE LAW OF VARIABLE PROPORTIONS - EXPLANATION:**

According to the law of variable proportions, marginal, average and total production increase at first when a change in factor of production while other factors of production are constant. This is called the first stage. But, after the stage, the total product is increasing with decreasing rate while average and marginal products decrease. The marginal product decrease upto it becomes zero. This is the second stage. After the stage, if we will continue the production process, the marginal product will become negative. This is the third stage. The law of variable proportion is analysed in the following table.

**Table 6.1**

No. of Labourers	Total Product in units	Average Product in units	Marginal Product in units
1	20	20	20
2	48	24	28
3	57	19	9
4	64	16	7
5	70	14	6
6	72	12	2
7	72	10.2	0
8	70	8.7	-2

— Ist Stage  
 — IIrd Stage  
 — IIIrd Stage

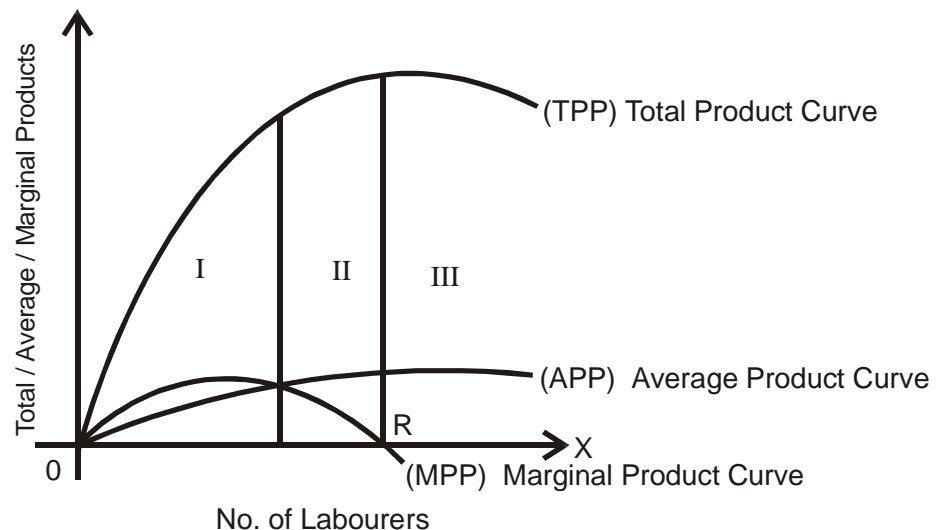
In the above Table 6.1, labour is variable factor while land, capital and organisation are fixed factors. From the above table, the total, average, and marginal products are equal at 20 units if the firm employs an labour. The total, average and marginal productivity are increasing with increase in number of labour. i.e., from one to two. Hence, this the first stage upto the two labourers.

The total output is increasing with decreasing rate when the number of employment of laborus increased when to 3 to 6. In this stage the average and marginal products are decreasing.

At the sixth worker the total output is not changed and marginal product becomes zero. The portion from 3 to 7th labour is called the second stage. The employment of the 8th labourer causes a decrease in to the production from 72 to 70 and the marginal product becomes negative. This is called the second stage.

The above analysis is presented diagrammatically in the following diagram - 6.1.

**Diagram - 6.1**



In the above diagram, the total product curve is increasing with increasing rate in the first stage. The marginal and average product curves are also intercept. This point is called as "Point of Inflation". In the second stage, the total production is increasing with diminishing rate, and the marginal product curve cuts the X - axis, at point 'R'. The marginal product becomes zero while the total product reaches maximum point. In the third stage this marginal production curve is below X - axis due to diminishes in the total product.

The producer gets maximum product, where the marginal product is zero. Hence the production is in equilibrium at this point. An optimum product continues his production upto the end of second stage.

## 6.5 LAW OF RETURNS TO SCALE:

The law of variable proportions shows that the production function of a firm which exhibits the relationship between are variable factor of production and output which other factors of production are fixed. But the law is applicable only in the short-run. However, it is possible to

change all the factors of production in the long-run. Change in all the factors of production is called change in scale. The law of returns to scale shows that all the factors of production are changed to the same extent. So that whatever the scale of production, the proportion among the factors remains the same.

**RETURNS TO SCALE:**

The law of returns to scale refers that all the factors of production are decreased or increased to the same extent so that whatever the scale of production, the proportion among the factors remains the same.

The returns to scale is divided into three types. They are:

1. Increasing returns to scale
2. Constant returns to scale
3. Diminishing returns to scale

**THE LAW OF RETURNS TO SCALE - ASSUMPTIONS:**

The law of returns to scale is based on the following assumptions.

1. All the factors of production are variable.
2. Technological changes are absent and
3. Perfect competition market exists.

**THE LAW OF RETURNS TO SCALE - EXPLANATION:**

If all the factors of production are increased in a given proportion, the total output has to be increased in the same proportion or decreased or remains constant. Returns to scale increase because increase in total output is more than proportional to the increase in all inputs. Returns to scale become constant as increase in total output is an exact proportion to the increase in all inputs. Returns to scale diminish because the increase in output is less than proportionate to the increase in inputs. Different types of returns to scale is analysed in the following table - 6.2.

**Table - 6.2  
CHANGE IN SCALE AND CHANGE IN PRODUCTION**

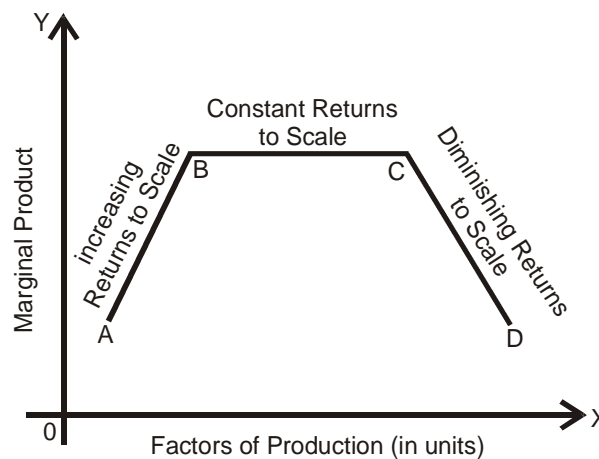
Combination of factors of production	Total Production	Marginal Product
1	5	5
2	12	7
3	21	9
4	38	9
5	39	9
6	45	6
7	49	4

|  
 | — Increasing returns  
 |  
 |  
 | — Constant returns  
 |  
 |  
 | — decreasing returns  
 |

In the above table, combination of factors of production means combination of land, labour and capital. It may be observed from the above table, that the total production is increasing up to the combination of the 3 units of factors of production. It means that increase in the total output is more than increase in the total output is more than increase in the ratio of factors of production. Hence, it may be stated that it is increasing returns to scale. The marginal product of 3rd, 4th, and 5th units of factors of production is same. i.e., 9. It shows that change in the total production is equal to change in the factors of production. This is called constant returns to scale. In the case of 6th and 7th units of the total output increase at a labour rate than before so that the marginal product starts diminishing. Hence, this is called diminishing returns to scale.

The above analysis is shown in the following diagram - 6.2.

**Diagram - 6.2**



We take factors of production an X-axis and marginal product on Y - axis. Curve ABCD shows the returns to scale. It may be observed from the curve that the marginal product is increasing in between A and B points due to increase in units of factors of production. Hence, returns are increasing. The marginal product is constant in between points B and C. Hence, the returns are constant. The marginal product is decreasing in between points C and D. Hence, the returns are decreasing. Therefore, increasing returns is the first stage, constant returns is the second stage and decreasing returns is an third stage.

1. **INCREASING RETURNS TO SCALE:** The reasons for increasing returns to scale are : 1) Changes in size of the firm 2) destruction of indivisibility of factors of production and 3) Introduction of specialization in labour etc.
2. **CONSTANT RETURNS TO SCALE:** The reasons for constant returns to scale are: No more indivisibility of factors of production and fully introduction of specialisation in labour.
3. **DECREASING RETURNS TO SCALE:** The returns for decreasing returns to scale are utilisation of low quality of factors of production, pressure on resources etc.

## 6.6 INTERNAL AND EXTERNAL ECONOMIES:

In modern times, there is a need to increase production to meet our needs or then is a need to increase size of a firm. When economies that accrue to a firm as a result of increase in its size is called internal economies. When economies that accrue to a firm as a result of increase in its size of an industry is called external economies. Economies means uses of a firm as it participation in production process. These two economies will decrease cost of production. Which increase profits of the firm.

**6.6.1 INTERNAL ECONOMIES:** Internal economies arise because of increase in the size of a particular firm. The following are advantages that accrue to a firm as a result of increase in its size.

1. **LABOUR ECONOMIES:** Division of labour can be introduced in a large firm. It leads to increase in production and minimise costs. There is possibility to appoint skilled labour in every production unit.
2. **TECHNICAL ECONOMIES:** These economies arise as a result the use of high machines and those scientific processes which can only be carried in big firms. It leads to increase in labour productivity. It may causes to research work in production. The firm may utilise by products. For example, molassis can be used to manufacture chemicals in sugar industries.
3. **MARKETING ECONOMIES:** A large firm derives economies in the purchase of materials and sale of goods. It can buy raw materials at lower prices because it effects bulk purchases. A large firm can maintain better selling organisation. It can spend huge sums of money on advertising and can establish new markets.
4. **MANAGERIAL ECONOMIES:** In a large firm the work of management is divided into several departments, each of which is put in charge of an expert. These experts can be used fully. It leads to improvement in skill and saving of time and promotes invention.
5. **FINANCIAL ECONOMIES:** The large firm derives many financial advantages. It is better known in market. It can borrow from banks and better terms. It can sell its shares debentures easily and quickly. The cost of obtaining credit or rising fresh capital is lower than for a small firm.

**6.6.2 EXTERNAL ECONOMIES:** Because of growth of the industry, the firms will derive some economies. These economies are called external economies. A firm derives same economies when same other firm grows larger, are called external economies. For example, as the number of textile mills increasing, more textile machinery is produced. This may reduce the cost of machines. Such advantages will accrue to all the firms in the industry. This economies are called external economies. The external economies are divided into three types.

They are :

1. Economies of concentration
  2. Economies of information
  3. Economies of specialisation
1. **ECONOMIES OF CONCENTRATION:** When a number of firms are started in one area they derive natural advantages through the provision of transport facilities, training of skilled workmen, the stimulation of improvements, establishment of financial and commercial and so on. Subsidiary and auxiliary industries will start based on these advantages.
  2. **ECONOMIES OF INFORMATION:** When the number of firms in an industry increases collective action and co-operative effort become possible. Firms do not carry on independent research. They can carry it collectively. Scientific and trade journals are published. Gathering of information is easy and advantageous to the industry. There is possibility for exchange of ideas among the industries.
  3. **ECONOMIES OF SPECIALISATION:** When the industry grows, the firms may agree to split up the process of manufacture so that they can specialise each stage. The firms may divide between themselves the stages of production. For example, in the cotton textile industry, some firms specialise in spinning, some in weaving and so on.

## 6.7 SUMMARY:

Creation of utilities is called production. Factors of production, land, labour, capital and organisation are needed to produce goods. The functional relationship between inputs and output in production function. The quality of a factor, is increased by usual amounts, then quantity of other factors remaining fixed is called change in proportion. The law of variable proportion was based on the change in proportion. The quantity of all factors of production is increased by equal amounts is called change in scale. Based on the change in scale the law of returns to scale was framed. The returns to scale are in the three stages. They are, increasing constant and decreasing returns to scale. Economies of scale have been classified as internal and external economies. Internal economies can arise because of increase in the size of a firm. External economies can arise because of growth of industry, the firm will derive these economies.

## 6.8 POINTS TO REMEMBER:

1. Creation of Utilities is called production.
2. Factors of Production are four types : They are 1) Land, 2) Labour, 3) Capital and 4) Organisation.
3. The functional relationship between inputs and outputs is called production functions.
4. The quality of a factor, is increased by equal amounts, the quantity of other factors is fixed is called change in proportion based on this, the law of variable proportion was framed.



5. The qualities of all factors of production were increased by equal amounts is called change in scale. Based on this the law of returns to scale was framed.
6. A firm or an industry accure internal and external economies if the production increases largely.

## 6.9 KEY CONCEPTS:

1. **PRODUCTION** : Creation of utilities.
2. **FACTORS OF PRODUCTION** : Resources that are used for the production of a good. According to Modern Economists land, labour, capital in organisation are the factors of production.
3. **LAND** : All the free gifts of nature like water, land, air, etc. are called Land.
4. **LABOUR** : Any work, whether manual or mental, which is under taken for a monetary consideration.
5. **CAPITAL** : Plant and machinery, tools and accessories, stock of raw materials, fuel etc., which are used in production process are called capital.
6. **ORGANISATION** : A person, who performs, brings all the factors together, combine them, organise them and taken risks and uncertenatics of production is called organiser.
7. **PRODUCTION FUNCTION** : The functional relationship between inputs and outputs.
8. **THE LAW OF VARIABLE PROPORTIONS :** When are factor is varied while keeping other factors fixed, the resulting behaviour of total, average, and marginal products is explained by the law.
9. **THE LAW OF RETRURNS TO SCALE** : The total output has to change in the same proportion when the amounts of all the factors are changed in the same proportion is called the law of returns to scale.

- 10. INTERNAL ECONOMIES** : Internal economies can arise because increase in production of a firm.
- 11. EXTERNAL ECONOMIES** : A firm derives same economies because some other firm grown, are called external economics.

## 6.10 MODEL QUESTIONS FOR EXECRIMINATIONS:

### I. EASY QUESTIONS:

1. What is production? Explain what are the factors of production and their characteristics.
2. Explain the law of variable proportions.

### II. SHORT QUESTIONS:

1. Explain the law returns to scale.

### III. VERY SHORT ANSWER QUESTIONS:

1. Production Function
2. Characterists of Land
3. Characteristics of Labour
4. Capital Formation
5. Functions of an Organiser
6. External Economies

## 6.11 SELECTED READINGS:

1. Alfred Marshall : Principles of Economies
2. Stomier and Hague : A Text Book of Economic Theory
3. G.E. Ferguson : Economics
4. M.L. Jhingan : Advanced Economic Theory
5. Telugu Academy : Vyapare Anthesastrem

## **Lesson : 7**

# **ANALYSIS OF COSTS**

## **7.0 AIMS & OBJECTIVES:**

Costs and different concepts of costs are analysed in this part. You can understand the following things by the end of this solution.

- \* What is cost ?
- \* Types of costs
- \* Different concepts of costs
- \* Different cost curves and its nature.

## **CONTENTS:**

- 7.1 Introduction**
- 7.2 Types and Concepts of Costs**
  - 7.2.1 Explicit costs**
  - 7.2.2 Implicit Costs**
  - 7.2.3 Money Costs**
  - 7.2.4 Real Costs**
  - 7.2.5 Opportunity Costs**
- 7.3 Analysis of Cost of Production of a Firm**
  - 7.3.1 Fixed Costs**
  - 7.3.2 Variable Costs**
  - 7.3.3 Total, Average and Marginal Costs**
- 7.4 Cost of Production of A firm in short-run**
- 7.5 Short-run Cost Curves**
- 7.6 Relationship between marginal cost and average cost**
- 7.7 Long-run Curves**
- 7.8 Summary**
- 7.9 Points to Remember**
- 7.10 Key Concepts**
- 7.11 Model Questions for Examinations**
- 7.12 Suggested Readings**

## 7.1 INTRODUCTION:

Costs are very important in business economics. Producer determines price of his goods based on the cost of production. Moreover, the costs are useful in taking business decisions. Producer utilise various factors of production, land, labour, capital and organisation and pay remuneration to all factors in money terms. The remuneration or prices of factors which are paid by the producer in money terms, are called costs or cost of production. In other words costs means expenditure of goods and services.

## 7.2 TYPES AND CONCEPTS OF COSTS:

Costs are analysed in different types and concepts. Some of them are discussed here under.

**7.2.1 EXPLICIT COSTS:** Explicit costs are those expenses which are increased any this firm in business goods and services directly or in borrowing goods and services.

**7.2.2 IMPLICIT COSTS:** Implicit costs are the costs that can be attributed to factor units which are owned and supplied try the entrepreneur. For example, salary of the owner, etc.

**7.2.3 MONEY COSTS:** Money costs are the total money expenses incurred by a firm in producing a commodity. For example, wages of labourers, cost of raw materials, etc.

**7.2.4 REAL COSTS:** Efforts and scarifies undergone by the various numbers of the society in producing a commodity are the real costs. All the costs interms of efforts and scarifies but not money terms are considered real costs. However it is difficult to derive final real costs as it depends upon psychological factors. As these costs depends upon psychological factors, there is no importance to real costs in the price analysis.

**7.2.5 OPPORTUNITY COST:** The concept of opportunity cost was introduced by "Davenport". Since some resources are scare, they cannot be used to produce all things simultaneously. Therefore, if they are used to produce, one thing, they have to withdrawn from other uses. So, we must pay to that factor of production at least as much as it earns in alternative occupation. This is called opportunity cost. For example, a labour is working in a cotton industry at the wage rate of Rs. 1000 per month. He can get Rs. 1000, or more, if he employed in Jute industry. But the labour agree only if the Jute industries offers more salary than this first. Thus, the cost of the second is the alternative foregone.

## 7.3 ANALYSIS OF COST OF PRODUCTION OF A FIRM:

Cost of production of a firm is divided into two types. They are:

1. Fixed Costs and
2. Variable Costs

**7.3.1 FIXED COSTS:** The expenditure incurred on fixed factors of production is called fixed cost. Fixed costs remain the same whatever the level of output. They have to be incurred even where the firm stops production temporarily. Fixed costs includes wages and salaries of permanent staff, rent, interest, insurance, depreciation charges etc. Fixed costs are

distributed among all the factors of production. Hence, it is called over head costs. Quality of production does not depends on these costs directly. Hence, they are also called as supplementary costs.

Cost incurred on to that fixed factors of production to produce some quantity of goods is called total fixed cost (TFC). Average fixed cost is obtained by dividing the total fixed cost by number of goods produced. Technically,

$$\text{Average fixed cost (AFC)} = \frac{\text{Total fixed cost}}{\text{No.of goods}} = \frac{\text{TFC}}{Q}$$

**7.3.2 VARIABLE COSTS:** Variable costs vary with the output. These costs vary with the every change in output. They includes wages of equal and temporary workers, payments for raw materials, fuel, power, transport, etc.. These are also known as direct costs.

Costs which are incurred on all variable factors of production to produce some quantity of goods is called Total Variable Cost (TVC). Average variable cost is obtained by dividing the total variable cost by number of goods. Technically,

$$\text{Average variable cost (AVC)} = \frac{\text{Total variable cost}}{\text{number of goods}} = \frac{\text{TVC}}{Q}$$

**7.3.3 TOTAL, AVERAGE AND MARGINAL COSTS:** Fixed and Variable Costs are included in totals cost. Hence, the total cost is obtained by adding the total fixed cost and totals variable cost. In other words, total money cost that is incurred on all factors of production to produce goods is called total cost. For example, if a firm decides to produce soaps and amount incurred on buildings, land, raw material, machinery, wages of employers etc are called total costs.

Average cost in the last of each good. The average cost is obtained by dividing the total cost with number of units produced. Technically,

$$\begin{aligned} \text{Average Cost (AC)} &= \frac{\text{Total Cost}}{\text{Number of Units}} = \frac{\text{TC}}{Q} \\ &= \frac{\text{TVC} + \text{TFC}}{Q} = \frac{\text{TVC}}{Q} + \frac{\text{TFC}}{Q} \\ &= \text{AVC} + \text{AFC} \end{aligned}$$

Marginal cost is additional cost resulting from additional unit of production. The marginal cost includes variable costs only but not fixed costs. Because fixed cost may not vary whereas variable cost may vary in the short-run period. Hence, the marginal cost affected by variable costs. The following formula is helpful to understand this marginal cost.

$$\text{Marginal Cost (MC)} = \frac{\text{Change in total cost}}{\text{Change in number of goods}} = \frac{\Delta \text{TC}}{\Delta Q}$$

(or)

Marginal cost = Total cost of production of 'n' units - Total cost of production (n - 1) units

$$= \text{TC}_n - \text{TC}_{n-1}$$

## 7.4 COST OF PRODUCTION OF A FIRM IN SHORT-RUN:

The following table 7.1 shows various costs of a firm in the short-run period.

Production in units	Total fixed cost(TFC)	Total variable cost (TVC)	Total cost (TC)	Average fixed (AFC)	Average variable (AVC)	Average total (AC)	Marginal cost (MC)
0	100	-	100	100	-	-	-
1	100	30	130	100	30	130	30
2	100	48	148	50	24	74	18
3	100	62.5	162.5	33.3	20.8	54.1	14.5
4	100	76	176	25	19	44	13.5
5	100	90	190	20	18	39	14.0
6	100	109	209	16.7	18.1	34.8	19
7	100	150	250	14.3	21.4	35.7	41

It is observed from the above table that the total production is 7 units. It can be observed that the total fixed cost is remain the same even output increases. While the total variable cost is increasing. The average fixed cost is decreasing when the production increase. Average variable cost and average total costs are decreasing upto 5<sup>th</sup> unit of production and then after increasing. Marginal cost decrease upto 4<sup>th</sup> unit and later increasing. However, increase in marginal is greater than increase in total variable cost and average cost.

It may be observed from the above table that except total fixed cost all are increasing as it is caused by changes in the marginal cost. These costs are analysed in following diagrams.

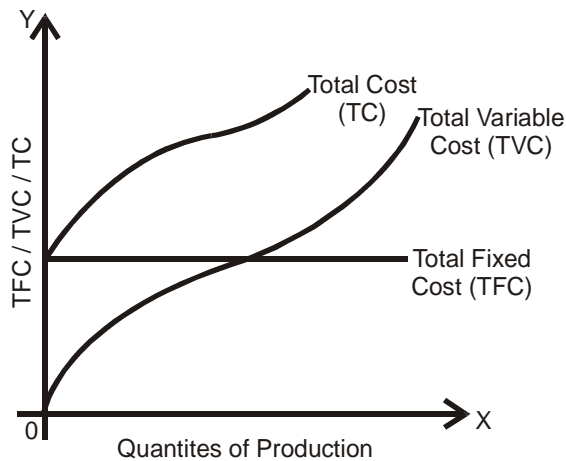
## 7.5 SHORT-RUN COST CURVES:

The total cost curves are analysed in the diagram. 7.1(A). The total fixed cost curve is parallel to X – axis as the TFC remain fixed even the production increase or decrease. The total variable cost is zero if the firm is not produced any thing. The TVC curve is increasing with decreasing trend and later rising with increasing trend. Hence, the TVC cure starts from the origin. The total cost curve starts from Y – axis as shown in the diagram and rises with increasing rate and later on rises with increasing rate.

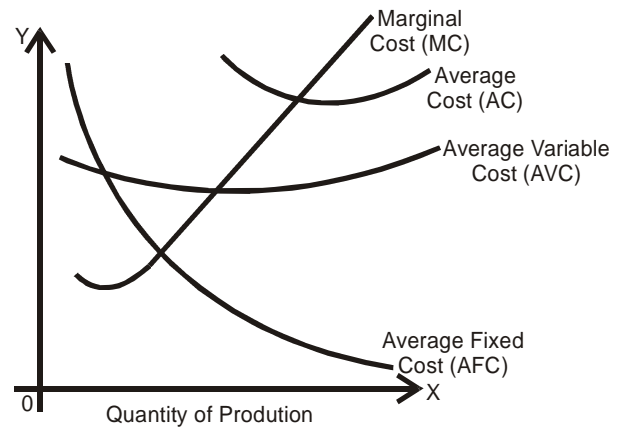
Average and marginal cost curves are shown in the diagram – 7.1(B). In the diagram, the average fixed cost curve AFC is decreasing with a result in output. Because the total fixed cost remain the same with a rise in output. Hence the AFC is distributed among various units of production. Therefore the AFC curve slopes downward to the right and is a rectangular hyperbola. The AVC curve is gradually decreasing, beyond a stage; it is increasing. Hence, the AVC will be 'U' shaped. The AC curve is also 'U' shaped. The AC curve is also 'U' shaped as AVC. But it is behind AVC. The marginal cost curve (MC) falls at first and then it slopes upward as further output additions to the output interfere with the most efficient use of the variable factors.

These are explained in the following diagrams.

**Diagram 7.1 (A)**



**Diagram 7.1 (B)**

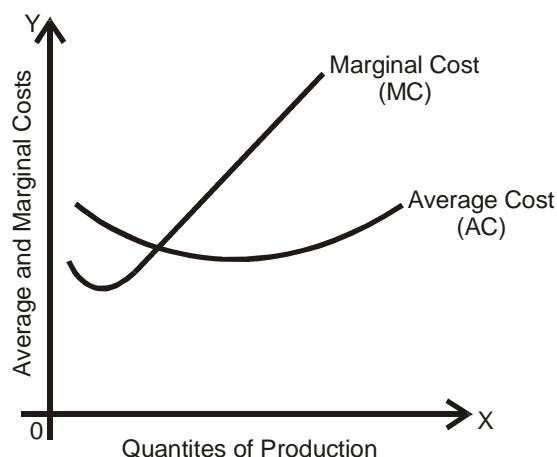


## 7.6 RELATIONSHIP BETWEEN MARGINAL COST AND AVERAGE COST:

Lippsey, an economist, analysed the relationship between average cost and marginal cost. The relationship between these two costs are analysed hereunder.

1. Average cost is greater than the marginal cost at first.
2. The marginal cost is decreasing while average cost declines.
3. The marginal cost is increasing while the average cost increases. But increasing rate in marginal cost is greater than increasing rate in the average cost.

Diagram 7.2



The relationship between average and marginal costs is analysed in the above diagram 7.2. In which depicts that, the average and marginal costs are decreasing at first. Later, while the marginal cost is increasing, the average cost declines and then increases. However increase in average cost, because of this reason, the marginal cost curve intersects the average cost curve from bottom.

## 7.7 LONG-RUN COST CURVES:

In short-run variable factors of production may varied. But in this long-run all the factors of production including fixed factors of production may be varied. Hence, all the factors of production are variable factors in this long run period. In the long-run we can construct new buildings, purchase new machinery, recruit additional employees etc.

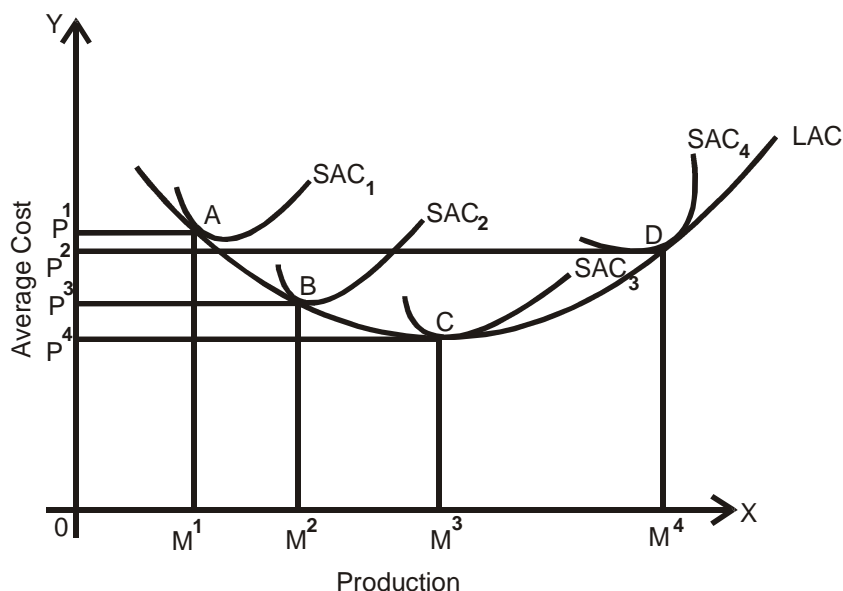
Hence, all cost that are incurred in the long-run are called long-run cost curve. Long-run average cost is obtained by dividing the long-run total cost by quantity of goods. It is shown in the formula.

**7.7.1 LONG-RUN AVERAGE COST CURVE:** Any firm will try to increase its profits by increasing production and tries to minimise its costs of production. Fixed factors of production may varied if the firm decides to increase production in the long-run, along with variable factors of production. Hence, all the factors of production are variable in the long-run. Thus, all the costs are variable and there is no fixed costs. Hence, we draw long-run cost curves by adding all the short-run curves.

$$\text{Long - run Average Cost} = \frac{\text{Long run Total Cost}}{\text{Quantity of Goods}} = \frac{\text{LTC}}{Q}$$



Diagram - 7.3



$SAC_1$ ,  $SAC_2$ ,  $SAC_3$  and  $SAC_4$  are the various short-run average curves in the above diagram-7.3. The long-run average curve (LAC) is drawn by adding the all short-run average curves. This is called 'envelop' curve. Points  $M^1$ ,  $M^2$ ,  $M^3$  and  $M^4$  shows various productions and points  $P^1$ ,  $P^2$ ,  $P^3$  and  $P^4$  shows its costs respectively on the LAC curve. The LAC curve is drawn by adding the minimum points  $P^1$ ,  $P^2$ ,  $P^3$  and  $P^4$  on various short-run average curves.

The firm is in equilibrium at  $OM^3$  level of output with  $OP^3$  level of cost of production as the firm has least-cost.

## 7.8 SUMMARY:

The remuneration or prices of factors of production is called costs. Those costs are divided into several types. Explicit costs, implicit costs, opportunities costs, long-run costs, short-run costs, fixed costs and variable costs. Expenditure incurred as fixed factors of production is called fixed cost. Expenditure incurred on variable factors of production is called variable cost. Hence, fixed and variable costs are included in total cost. Average cost is obtained by total cost divided by number of goods. Additional cost for productivity additional product is called marginal cost. In the long-run all factors may be varied. Hence, all factors in the long-run are variable costs. Thus, all costs are variable costs.

## 7.9 POINTS TO REMEMBER:

1. Concept of cost play an important role in production process. Basing on the costs the business men take some decisions.
2. Total money expenses incurred by a firm in producing goods is called money cost. Efforts and sacrifices undergone by the various members of the policy are the real costs.
3. Total fixed cost may not be changed where as total cost and total variable cost may varied along with production.
4. Average cost curve and average variable cost curve are 'U' shaped. But average cost curve is beyond the average total cost curve.
5. The marginal cost curve Is Hockey bat shaped.
6. The long-run average curve is also known as 'envelop curve'.

## 7.10 KEY CONCEPTS:

1. **Cost of Production** : Cost incurred by a firm in producing a commodity.
2. **Money Cost** : Cost interms of money.
3. **Real Cost** : Cost interms of efforts and sacrifices.
4. **Total Cost** : Total cost incurred in producing same quantity of Output.
5. **Variable Cost** : Cost may varied along with production.
6. **Fixed Cost** : Cost may not changed along with production.
7. **Short-run** : Short-run is a period in which all the factors cannot be varied.
8. **Long-run** : Long-run is a period in which all the factors can be changed.
9. **Average Cost** : Cost per unit of production.
10. **Marginal Cost** : Additional cost for producing additional unit.

## 7.11 MODEL QUESTIONS FOR EXAMINATIONS:

### I. Essay Questions

1. Discuss various concepts of costs.
2. Explain short-run cost curves.
3. Explain long-run cost curves.

**II. Short Questions**

1. Fixed and variable costs.
2. Money and real costs
3. Short-run cost curves
4. Long-run cost curves.

**7.12 SELECTED BOOKS FOR READING:**

1. Watson D.S. : Price theory and its uses
2. K.K. Dewett : Modern Economic Theory
3. Ahuja, H.L. : Advanced Economic Theory
4. Jhingan, M.C., : Advanced Economic Theory
5. Telugu Academy : Vyapara Arthasasthram

## **Lesson : 8**

# **SUPPLY**

### **8.0 AIMS & OBJECTIVES:**

Among the market forces the first one is demand and the second one is supply. The supply of a commodity at a given price is the amount of it offered for sale at a given time.

For example, 10 lakhs meters of cloth at a given price is the amount of it offered for sale at a given time is the supply of cloth. By the end of this lesson you should be able to understand the following points:

- \* What is supply ?
- \* Law of supply, supply schedule, supply curve.
- \* Exceptions for the law of supply
- \* Elasticity of demand
- \* Types of Elasticity of demand
- \* Importance of Elasticity of Demand

### **CONTENTS:**

- 8.0 Aims and Objectives**
- 8.1 Introduction**
- 8.2 Assumptions of Supply**
- 8.3 Law of Supply**
- 8.4 Supply Function**
- 8.5 Supply Schedule**
- 8.6 Supply Curve**
- 8.7 Exceptions for the law of supply**
- 8.8 Elasticity of Supply**
- 8.9 Types of Elasticity of Supply**
- 8.10 Determinants of Elasticity of Supply**
- 8.11 Importance of Elasticity of Supply**
- 8.12 Summary**

**8.13 Points to Remember****8.14 Keywords****8.15 Model Questions****8.16 Selected Readings****8.1 INTRODUCTION:**

Performance of Business organisation is determined by the demand and supply of its commodity. Generally, we consider production and supply as same. But in all times it is not correct. In production, some may be utilised and remaining will be sent to the market. In this context production and supply are not equal. Supply is a flow. Hence, at a given price, at a given time, the amount of a commodity offered by producer for sale is called the supply.

**8.2 ASSUMPTIONS:**

The law of supply depends upon the following assumptions.

- 1) The number of firms are constant.
- 2) No change in technological progress.
- 3) No change in production and production of cost.
- 4) The prices of substitute goods are fixed.
- 5) Government policy is constant.

**8.3 LAW OF SUPPLY:**

Other things being equal, the supply of a commodity extends, with a rise in price and contracts with a fall in price". It means that the supply varies directly with the price. If the price of a commodity is high, producer produces more quantity and gets more profits producer produces less quantity when the price of the commodity is low to avoid losses.

**8.4 SUPPLY FUNCTION:**

We know already that commodity extends with a rise in price and contracts with a fall in price. The functional relationship between price and supply is called supply function. There is a direct relationship between price and supply. But, not only the price of commodity but also some other factors, price of other goods, prices of factors of production, technological progress and other thing affecting the supply. Hence, the functional relationship between the supply and the factors is shown as under

$$S_x = f[P_x, T, P_y, \dots, P_n, F_1, F_2, \dots, F_n]$$

Where  $S_x$  = Supply of commodity X

$P_x$  = Price of commodity X

T = Technological Progress

$P_y \dots P_n$  = Prices of other goods

$F_1, F_2, \dots F_n$  = Prices of factors of production.

Let us hope that, except the price of commodity X, other things being constant. Then the supply of commodity X depends upon its price. Now, we can write the above function as

$$S_x = f(P_x)$$

### 8.5 SUPPLY SCHEDULE:

Supply schedule shows the various amounts of a commodity offered for sale at different prices. Other things being equal, a rise in price tends to extend the supply. Given below is the supply schedule of a commodity.

**SUPPLY SCHEDULE**

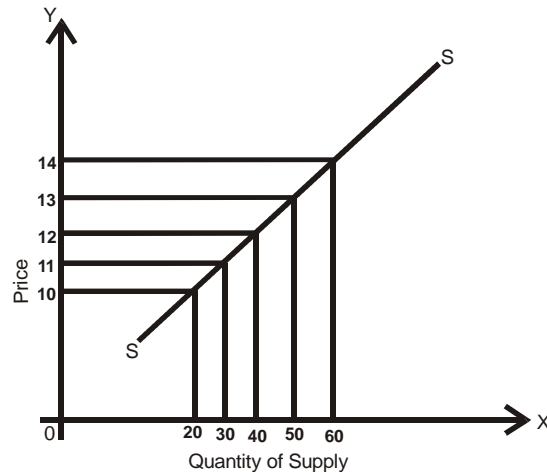
Price of Good (in Rs.)	Quantity (in quintals)
10	20
11	30
12	40
13	50
14	60

In the above table, the supply of commodity is 20 quintals when the price is Rs. 10. If the price arises from Rs. 10 to Rs. 11 tends to extend the supply from 20 quintals to 30 quintals and so on. It means arise in price tends to extend the supply. Hence, there is a direct relationship between the price and supply.

### 8.6 SUPPLY CURVE:

Supply curve shows the relationship between price and supply. This is shown in the following diagram 8.1.

Diagram 8.1



We took quantity of supply on OX - axis, and price on OY - axis in the above diagram. It is observed that the quantity of supply is 20 quintals at Rs. 10. If the price rises from Rs.10 to Rs. 11, the supply also increases from 20 to 30 quintals. A curve is drawn by intersecting each point, which is known as supply curve. It is SS in the diagram. The supply curve slopes upwards from left to right as shown in the above diagram.

### 8.7 EXCEPTIONS TO THE LAW OF SUPPLY:

There are certain exceptions to the law of supply.

1. Producer may anticipate further changes in prices suppose the price of a commodity has fallen. It is expected to fall further. Then, firms try to sell more when the price has initially fallen.
2. The law does not apply to labour. For example, the supply of labour may get reduced as wage rate rises beyond a point. The labour may be satisfied with a certain land of income. As he gets the desired land of income, a higher wage rate reduces the supply of labour. At that point the supply curve of labour bends backward.
3. The supply of agricultural output depends on weather conditions. Even when the prices, have gone up agricultural products may be in short-supply.
4. In the long-run the tastes and habits are more effective than prices.

### 8.8 ELASTICITY OF SUPPLY:

As elasticity of demand is very importance in business economics, elasticity of supply is also an important item in economics. The concept elasticity of supply, shows the relationship between changes in price and changes in supply. When the things being equal, the elasticity supply shows changes in supply as a result of changes in prices. The following equation is used for the calculation elasticity of supply.

Elasticity of supply ( $\eta_s$ ) =  $\frac{\text{proportionate change in supply}}{\text{proportionate change in price}}$

Proportionate change in supply =  $\frac{\text{Change in supply}}{\text{First supply}} = \frac{\Delta Q}{Q}$

Proportionate change in Price =  $\frac{\text{Change in price}}{\text{First price}} = \frac{\Delta P}{P}$

$$\therefore \eta_s = \frac{\Delta Q}{Q} \div \frac{\Delta P}{P}$$

$$= \frac{\Delta Q}{Q} \times \frac{P}{\Delta P}$$

$$= \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

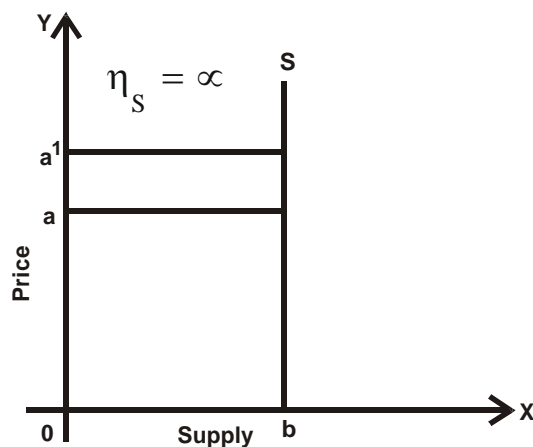
## 8.9 TYPES OF ELASTICITY OF SUPPLY:

The elasticity of supply is five types. They are as under follows:

Different elasticity of supply curves:

**Diagram 8.2(A)**

**Perfectly Inelasticity**



**Diagram 8.2(B)**

**Perfectly Elasticity**

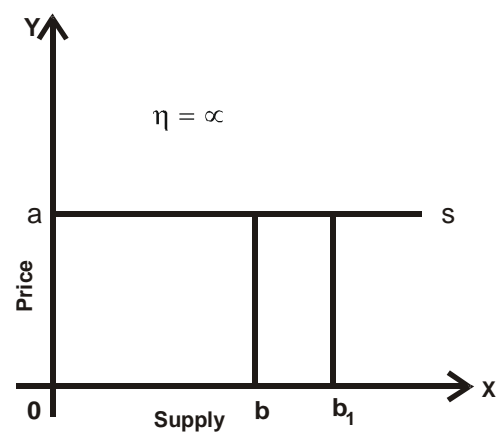




Diagram 8.2(C)  
Unitary Elasticity

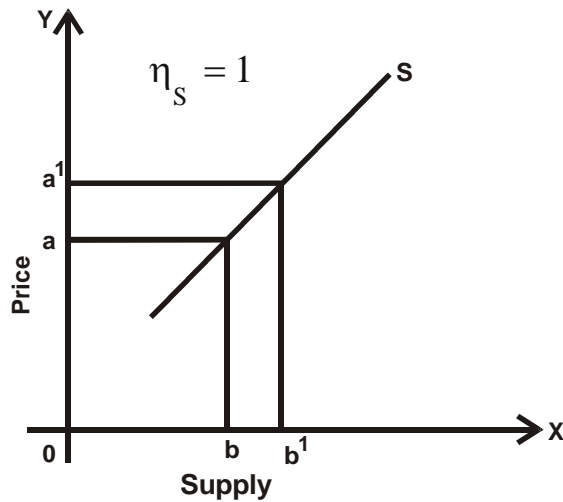


Diagram 8.2(D)  
Relative Inelasticity

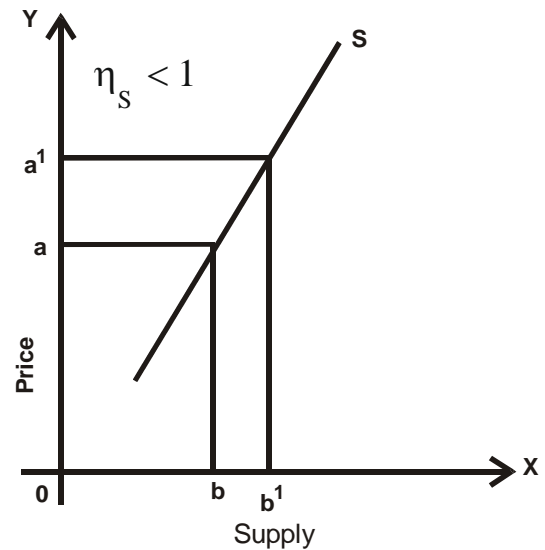
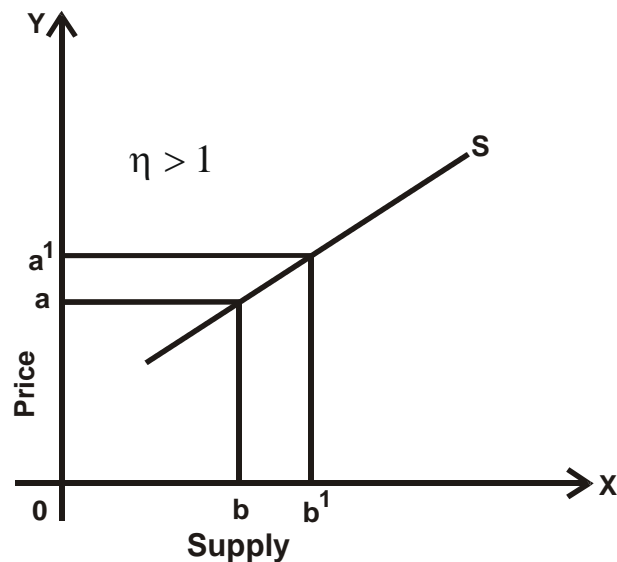


Diagram 8.2(E)  
Relative Elasticity



1. **PERFECTLY INELASTICITY OF SUPPLY:** There is no change in supply for a change in price is called perfectly inelasticity of supply. The value of perfectly elasticity of supply is zero. The perfectly inelasticity of supply curve slopes vertical as shown in the diagram 8.2 (A). It is observed from the diagram that the supply of commodity is  $ob$  at  $oa$  price level. If the price increases from  $oa$  to  $oa'$ , the supply does not change.

2. **PERFECTLY ELASTICITY OF SUPPLY:** There is a infinity change in supply for no change in price is called perfectly elasticity of supply is infinitive ( $\infty$ ). The perfectly elasticity of supply curve is a horizontal straight line parallel to OX - axis as shown in the diagram - 8.2(B). It is observed from the diagram that the supply is increased from ob to ob' for no change in price.
3. **UNITARY ELASTICITY OF SUPPLY:** Unitary elasticity of supply is unity when the change in the amount supplied is an exact proportion to the change in the price. The value of unitary elasticity of supply is are ( $\eta_s = 0$ ). As shown in the diagram - 8.2(c), the curve SS is a  $45^\circ$  line represents unit elasticity of supply change in supply is bb' for a change in price aa'. Hence, change in supply is equal to change in price.
4. **RELATIVE INELASTICITY OF SUPPLY:** When a given change in price, leads to less proportionate change in the amount supplied is called relative inelasticity of supply. The value of relative inelasticity of supply is less than one ( $\eta_s < 1$ ). As shown in the diagram - 8.2(D) aa' is the change in price and bb' is the change in supply. Hence, the change in supply bb' is less than for a change in price aa'. It is called relatively inelasticity of supply.
5. **RELATIVE ELASTICITY OF SUPPLY:** When a given change in price leads to greater proportional change in the amount supplied is called relative elasticity of supply. The value of relative elasticity of supply is greater than one. ( $\eta_s > 1$ ). As shown in the diagram - 8.2(E), aa' is the change in price and bb' is the change in supply. Hence the change in supply bb' is greater than for a change in price aa'.

### 8.10 DETERMINANTS OF ELASTICITY OF SUPPLY:

The following things are some of the determinants of elasticity supply.

1. Availability and mobility of factors of production affect elasticity of supply.
2. It depends as the length of time needed to re-organise production in order to adjust supply to demand.
3. Changes in process of production.
4. Availability of markets.
5. Changes in costs of production.

### 8.11 IMPORTANCE OF ELASTICITY OF SUPPLY:

The elasticity of supply plays great role in Business Economics. It is an important concept in economic activities as demand. The following analysis shows the importance of elasticity of supply.

1. Price determination of a commodity with regards to its demand, depends upon an elasticity of supply.
2. It is useful in impact of indirect taxes. It means we take into consideration while imposition of taxes.
3. The elasticity of supply is useful in determination of value theories.

### 8.12 SUMMARY:

The amount of a commodity offered by producers at a given price, at a given time, is called supply. According to the law of supply, other things being equal, the supply of a commodity extends with a rise in price and contracts with a fall in price. The supply schedule shows the various amounts of a commodity offered for sale at different prices. A curve, which shows the relationship between price and supply is called supply curve. Generally, the supply curve slopes upwards from left to right as there is direct relationship between the price and supply. Changes in supply as a result of changes in price is called elasticity of supply. No change in supply for a change in price is called perfectly inelasticity of supply. When the change in amount supplied is an exact proportion to the change in price is called unitary elasticity of supply. When a given change in price leads to greater proportionate change in the amount supplied is called relative elasticity of supply. The elasticity of supply plays an important role in economic activities.

### 8.13 POINTS TO REMEMBER:

1. The amount of a commodity offered for sale by production at a given price and at a given time is called supply.
2. The functional relationship between price and supply is called supply function.
3. A schedule, which shows various amounts of a commodity offered for sale at different prices is called supply schedule. The curve is called supply curve.
4. The supply curve slopes upwards from left to right as there is direct relationship between price and supply.
5. Changes in supply as a result of changes in price is called elasticity of supply.
6. The elasticity of supply is perfect when the elasticity is infinite ( $\infty$ ). It is perfectly inelastic when the elasticity is zero. The elasticity of supply is unitary when the elasticity is equal to one ( $= 1$ ). It is relation elastic if the elasticity is greater than one ( $>1$ ). It is relatively inelastic if the elasticity is less than one ( $<1$ ).
7. Availability of factors of production, changes in production function, availability of markets, change in cost of production etc. determines the elasticity of supply.
8. The elasticity of supply is useful in the analysis of indirect taxes incidence, value theory etc.

### 8.14 KEY CONCEPTS:

1. **SUPPLY** : The amount of a commodity offered for sale by a producer at a given price and at a given time.
2. **Law of Supply** : Other things being equal, the supply of a commodity extends with a rise in price and contracts with a fall in price.
3. **Supply Schedule** : It shows the various amounts of a commodity offered for sale at different prices.
4. **Supply Function** : The functional relationship between price and supply of a commodity.
5. **Elasticity of Supply** : Changes in supply as a result of changes in price is called elasticity of supply.
6. **Perfectly inelasticity of supply** : No change in supply for a change in price is called perfectly inelasticity of supply.
7. **Perfectly Elasticity of Supply** : Infinitive change in supply for a change in price is called perfectly elasticity of supply.
8. **Unitary Elasticity of Supply** : When the change in amount supplied is an exact change in price is called unitary elasticity of supply.
9. **Relative inelasticity of Supply** : A given change in price leads to less change in the amount supplied is called relative inelasticity of supply.
10. **Relatives Elasticity of Supply** : A given change in price leads to more change in the amount supplied is called relative elasticity of supply.

### 8.15 MODEL QUESTIONS FOR EXAMINATIONS:

#### I. ESSAY QUESTIONS:

1. What is meant by elasticity of supply and explain different types of elasticity of supply.
2. What is elasticity of supply? Write the importance of elasticity of supply.

#### II. SHORT QUESTIONS:

1. Supply Schedule
2. Supply function
3. Elasticity of supply

4. Exceptions to the law of supply
5. Importance of elasticity of supply

### 8.16 SELECTED READINGS:

1. Dean Joel : Managerial Economics
2. Sundaram, K.P.M. : Business Economics
3. Dewett, K.K. : Advanced Economic Theory
4. Ahuja, H.C. : Principles of Micro Economics
5. Telugu Academy : Vyapara Arthasasthram

## **Lesson : 9**

# **CLASSIFICATION OF MARKETS**

## **9.0 AIMS AND OBJECTIVES:**

The aim of this chapter is to study the classification of the markets and factors influencing the extent of market. We also generally observe the importance of time element in price determination and differences between market price normal price in this chapter.

## **CONTENTS:**

- 9.0 Aims and Objectives**
- 9.1 Introduction**
- 9.2 Classification of the markets**
- 9.3 Factors determining the extent of market**
- 9.4 Importance of time element in price determination**
- 9.5 Market price and normal price**
- 9.6 Conclusion**
- 9.7 Points to the remember**
- 9.8 Key Concepts**
- 9.9 Model Questions**
- 9.10 Reference Books**

## **9.1 INTRODUCTION:**

In general sense market is a place where the sellers and buyers gathered in order to sell and abuy a particular commodity. But in Economics market is not relating to only a particular place. Selling and buying transactions may be taken place from dirtant places with the help of telephone. Postals etc... or Market is a situation where the buying and selling transactions are undertaken. The market for a chapman, "the term market refers not necessarily to a place but always to a commodity and the buyers and sellers who are in direct competition with one another". The markets must have a commodity. there must be the existance of buyers and sellers. More over there must be a competition among the buyers and sellers.

## **9.2 CLASSIFICATION OF THE MARKETS:**

Markets can be classified in different ways:

- 1. ON THE BASIS OF COMPETITION:** On the basis of comeptition, the markets can be classified into two - (a) Perfect Competition, (b) Imperfect Competition.

- (a) **PERFECT COMPETITION:** Perfect competition is a market in which there are many firms selling identical products with no firm large enough relative to the entire market to be able to influence the market price. Therefore, a perfectly competitive market is said to exist, when there is a large number of producers producing the identical products. The prevailing price is known to all buyers and sellers.

**FEATURES OF PERFECT COMPETITION:** Perfect Competition is having the following features:

- (i) In this competition there are large number of buyers and sellers.
- (ii) In this market the good, produced by all the firms are homogeneous or identical.
- (iii) In perfect competition every firm has the freedom to enter the market and exit from the market.
- (iv) The buyers and sellers must have perfect information with regard to the prices of commodities at different supplies and demand forces.
- (v) There must be perfect mobility of factors of production.
- (vi) The prices of the commodities are uniform in perfect competition.
- (vii) The transport costs should not be included in the cost of production.
- (viii) There is a difference between firm and industry in perfect competition.

- (b) **IMPERFECT COMPETITION:** The concept of imperfect competition was mainly propounded by Mrs. Joan Robinson. In this market the individual firms exercise their control over the price to a small extent or greater extent.

**FEATURES OF IMPERFECT COMPETITION:** The following are the main features of imperfect competition.

- (i) There is imperfect mobility of the factors of production in imperfect competition.
- (ii) Product differentiation is another feature of imperfect competition.
- (iii) There is no perfect information about market conditions.
- (iv) Selling costs are playing much important role in imperfect competition.
- (v) Generally in imperfect competition each firm is a price - maker and it can determine the price of its own brand of the product.
- (vi) In imperfect competition the transport costs are included in price level.

**KINDS OF IMPERFECT COMPETITION:** There are different kinds of imperfect competition.

- (i) Monopoly - In this market there is only one seller or firm.
- (ii) Duopoly - Two sellers are there in this market.

- (iii) Monopolimor Competition - There are large number of sellers but producing differential products.
  - (iv) Migopoly - There are only few sellers in this market.
2. **ON THE BASIS OF AREA:** On the basis of area, markets can be classified into local, national and international markets.
- (a) **LOCAL MARKET:** If a commodity is sold within a small or local area, then it is said to be a local market.
  - (b) **NATIONAL MARKET:** In the case of national market the buying and selling transactions are under taken with in the country. The entire nation may be regarded here as one market.
  - (c) **INTERNATIONAL MARKET:** When the commodities are sold all over the world, then it is said to be international market. The development air and sea transport leads to development of world market.
3. **ON THE BASIS OF TIME:** On the basis of time the markets can be classified into four
- (a) **VERY SHORT PERIOD MARKET:** This is also known as market period. In this market, time is very short for firms to increase the supply.
  - (b) **SHORT PERIOD MARKET:** In this market production of goods can be changed to only some extent. The price which prevails in the short run market is called short run price.
  - (c) **LONG PERIOD MARKET:** In this period the firms can install new capital equipment and new firms can enter the market. Supply of the goods can be changed to a great extent due to changes in the fixed cost and variable cost in this period.
  - (d) **VERY LONG PERIOD MARKET:** There are tremendous changes in supply and demand in this very long period and it is difficult to identify those changes in this market. This period is also known as secular period.

### 9.3 FACTORS DETERMINING THE EXTENT OF MARKET:

The extent of market may be different in the case of different goods. A market may be a local, confined to a village, or it can cover a whole country or even the world. There are different factors which are determining the extent of market in the following way -

1. **SIZE OF PRODUCTION:** Large scale production leads to widening of the market. The commodities can have a wide market provided the product can fully meet the market demand. Markets have been expanded after the industrial revolution.
2. **NATURE OF DEMAND:** Generally the goods which have world wide demand will have wider market. For example gold has a world wide market. If the demand for the product is relating to only particular area, then there is a local market for that product.

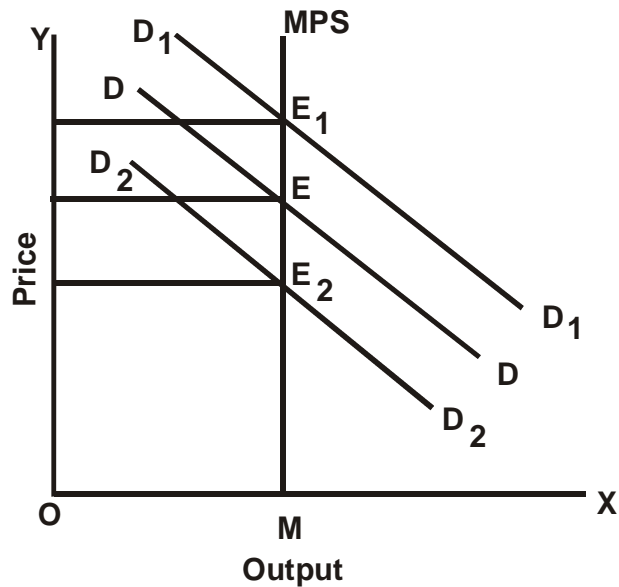


3. **NATURE OF THE COMMODITY:** Durable goods are having wider market. For example, market for gold is wider because it is more durable good and its value is very high in proportion to its size.
4. **TRANSPORT AND COMMUNICATION:** The development of transport and communication facilities will increase the extent of market. In modern days air crafts and communication facilities are contributing a lot for expansion of market.
5. **CURRENCY AND CRDIT SYSTEM:** A well developed currency and credit system will promote the extent of market. For example, after the establishment of Internation Monetary Fund, World Bank and other international institutions, world trade has been expanded.
6. **TRADE POLICIES OF THE GOVERNMENT:** Thisis the most important factor influencing the extent of market for a domestic product in foreign countries. If the government is imposing more restrictions on exports and imports, then the market will be narrow.
7. **PEACE AND SECURITY:** internation peace and security provide a better and favourable conditions for expansion of world market. At a tome of war, the extent of market will be limited.
8. **POSSIBILITY OF SAMPLING AND GRADING:** Availability of more samplying and grading facilities will increase the extent of market.

#### 9.4 IMPORTANCE OF TIME ELEMENT IN PRICE DETERMINATION:

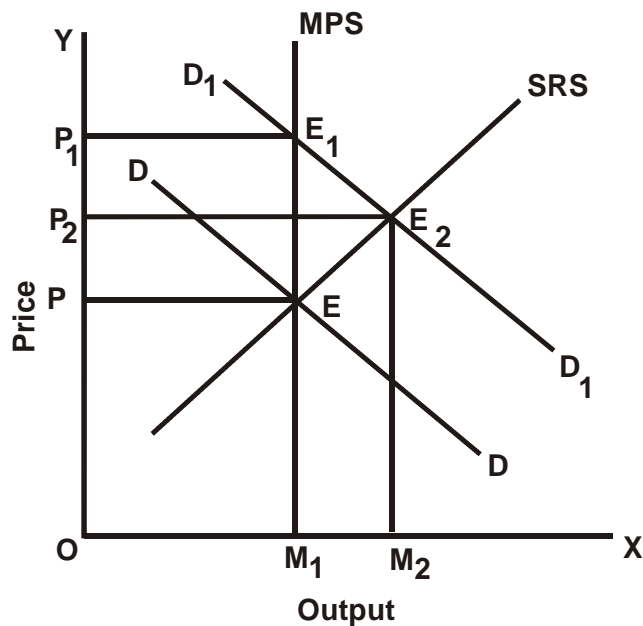
Generally the prices are determined with the help of demand and supply forces. But according to Marshall the time element is also playing an important role in price determination along with demaned and supply forces. Marshall broadly divided the time into four periods - 1. Very Short Period, 2. Short Period, 3. Long Period, 4. Very Long Period.

1. **VERY SHORT PERIOD:** Very short period is also known as market period. In this period supply in not changing in accordance with demand. The supply more or less remains constant due to no changes in both fixed cost and variable cost. Market period depends on the nature of commodities. the supply and demand curves are as follows in the very short period.



In the above diagram on X - axis the output and on Y - axis the price are determined. In this diagram MPS is the E and therefore, the price is determined as OP and output as OM. The market period supply curve i.e. MPS is constant. The demand curve is slufted from DD to  $D_1D_1$ . Therefore, the price is increased from OP to  $OP_1$  and later decreased from OP to  $OP_2$  with the decrease of demand from DD to  $D_2D_2$ .

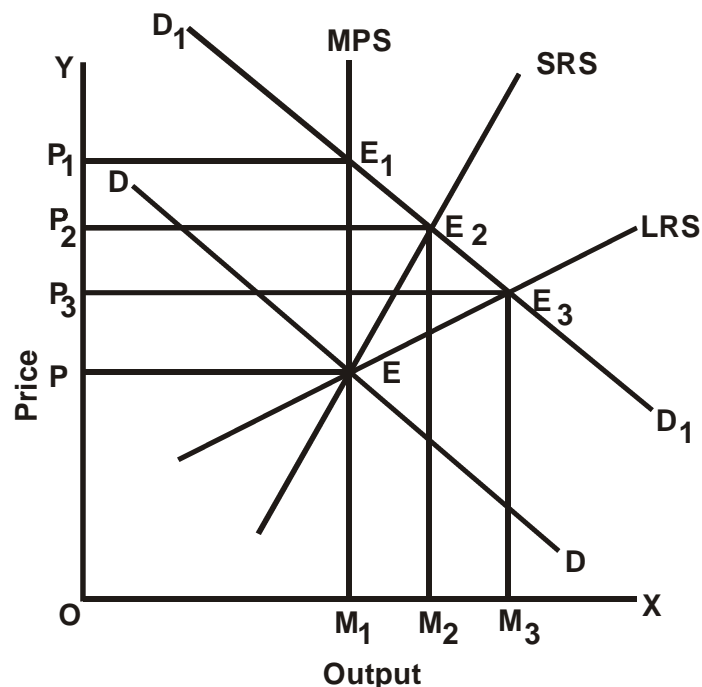
2. **SHORT PERIOD:** In this period due to change in the variable cost, the supply of goods can be adjusted to some extent. We can know this thing with the help of following diagram.



In the diagram SRS in the short run supply curve. The market period supply curve (MPS) and the increased demand curve ( $D_1D_1$ ) are equal at point  $E_1$ . So the price is determined as  $OP_1$ . In the short period the supply curve is changed from MPS to SRS. Now the short run supply curve and increased demand curve  $D_1D_1$  both are equal at point  $E_2$ . Therefore, the output is increased from  $OM_1$  to  $OM_2$  and the price is decreased from  $OP_1$  to  $OP_2$ . Short period price ( $OP_2$ ) is less than the price of very short period ( $OP_1$ ) and the short period output ( $OM_2$ ) is more than the output of very short period ( $OM_1$ ).

3. **LONG PERIOD:** Long Period price is also known as normal price. In this long period both fixed cost and variable cost can be changed. therefore it is possible to increase the supply of goods to a great extent. We can analyse the price determination in the long period in different cost situations.

**(a) LONG PERIOD PRICE AND INCREASING COSTS:** When all the firms in the industry are experiencing diminishing returns to scale, then the additional output is secured only at the increasing costs. This can be explained in the following way with the help of diagram.



In the above diagram the long run supply curve LRS and the increased demand curve  $D_1D_1$  are equal at point  $E_3$ . So the price is determined as  $OP_3$  and the





3. Market price may be less or more than the cost of production. Therefore, the market price is not influenced by cost of production on the other hand normal price always remains equal to the average cost of production. so, normal price is influenced by cost of production.
4. Market price is actually established and therefore it is an actual price. But in actual life, the normal price does not exist. It is only an imaginary one.
5. Market price is a temporary price and it is determined by temporary equilibrium between the forces of demand and supply at a particular time. Normal price is a permanent price and it is the result of long run equilibrium between demand and supply. Market price may change continuously from time to time. But the normal price is stable in the long period.
6. The producer may enjoy abnormal profits if the market price is more than the average cost. Some times he may bear losses if the market price is less than the average cost. But in the long period the producer always gets only normal profits. Normal price is always equal to the average cost of production and therefore the producer gets normal profits in the long run.
7. All commodities are having market price. The goods which are reproducible are having normal price. There is no normal price in the case of non - reproducible goods. For example the diamonds are not reproducible goods and therefore, these goods are not having normal price.

## 9.6 CONCLUSION:

Market is a situation where the buying and selling transactions are undertaken. On the basis of competition time and area, markets are classified into different ways. In economics, the classification of markets on the basis of competition is the most important one. There are some fundamental differences between market price and normal price.

## 9.7 Points to be remember:

1. In economics market is a situation where buying and selling transactions are undertaken.
2. On the basis of competition, the markets are classified into perfect competition and imperfect competition.
3. On the basis of area, markets can be classified into local national and international market.
4. On the basis of time the markets are broadly classified into very short period market, short period market, long period market and very long period market.
5. There are various factors which are determining the extent of market.
6. According to Marshall the time element is also playing an important role in price determination.

7. The concept of price is playing an important role in the study of micro economics. there are some differences between market price and normal price.

### 9.8 KEY CONCEPTS:

1. **Market** : In economics market is a situation where the buying and selling transactions are under taken.
2. **Local Market** : If a commodity is sold with in a small or local area, then it is said to be a local market.
3. **National Market** : In the case of national market, the buying and selling transactions are undertaken with in the country.
4. **International Market** : When the commodities are sold all over the world, then it is said to be international market.
5. **Price** : The value of commodity expressed in terms of money is known as price.
6. **Fixed Cost** : Fixed Cost is that cost which is not changed with the change of output and it remains constant.
7. **Variable Cost** : Variable cost is that cost which is changed with the change of output. There is a direct relationship between output and variable cost.

### 9.9 MODEL QUESTIONS:

#### I. Essay Questions:

1. Write about the importance of time element in price determination.

#### II. Short Essay Questions:

1. What is market and explain the classification of markets.
2. What are the factors influencing the extent of market.

#### III. Very Short Questions:

1. Classification of the markets on the basis of competition.
2. Classification of the markets on the basis of area.
3. Classification of the markets on the basis of time.

### 9.10 REFERENCE BOOKS:

1. R.A. Bilas : Micro Economic Theory
2. K.K. Dewet : Modern Economic Theory
3. H.C. Ahuja : Principle of Micro Economics
4. M.L. Jhingon : Micro Economic Theory
5. తెలుగు అకాడమి : ఆర్థికశాస్త్ర సిద్ధాంతం
6. Centre for Distance Education : ఆర్థికశాస్త్రం సిద్ధాంతం

## **Lesson : 10**

# **PERFECT COMPETITION**

## **10.0 AIMS AND OBJECTIVES:**

The main aim of this chapter is to study the features and price determination under perfect competition. We will also observe the equilibrium of the firm in the short run and long run under perfect competition. We also observe the equilibrium of the industry in perfect competition in this chapter.

## **CONTENTS:**

- 10.0 Aims and Objectives**
- 10.1 Introduction**
- 10.2 Features of Perfect Competition**
- 10.3 Price Determination**
- 10.4 Price determination when demand changes and supply remains constant**
- 10.5 Price determination where demand remains constant and supply changes**
- 10.6 Price determination where both demand and supply are changed**
- 10.7 Equilibrium of the firm and industry under perfect competition**
- 10.8 Equilibrium of the firm under perfect competition**
- 10.9 Equilibrium of the firm in the short period with abnormal profit**
- 10.10 Equilibrium of the firm in the short period with losses**
- 10.11 Equilibrium of the firm in the long run**
- 10.12 Equilibrium of the industry under perfect competition**
- 10.13 Conclusion**
- 10.10 Points to be remembered**
- 10.15 Key Concepts**
- 10.16 Model Questions**
- 10.17 Reference Books**



## 10.1 INTRODUCTION:

The concept of market is playing an important role in study of economics. The determination of price of any commodity is mainly depending on the market. more over, the decision with regard to production and purchase are also mainly depending on the nature of market. On the basis of competition the markets can be classified into two - 1. Perfect Competition, 2. Imperfect Competition.

**DEFINITIONS:** There are various definitions with regard to perfect competition.

According to Lift witch "Perfect competition is a market in which there are many firms selling identical products with no firm large enough relative to the entire market to be able to influence market price."

According to Bilas, "The perfect competition is characterised by the presence of many firms; they all sell identically the same product. the seller is a price - taker."

Mrs. Joan Robinson has defined perfect competition as "it prevails when the demand for the output of the each producer is perfectly elastic."

## 10.2 FEATURES OF PERFECT COMPETITION:

The following are te main features of perfect competition.

1. **LARGE NUMBER OF BUYERS AND SELLERS:** There are large number of buyers and sellers in perfect competition. the activity of one buyer or seller may not influence the market price. The output of single firm and purchase of a single buyer are very much less in the total output and purchases respectively.
2. **HOMOGENEOUS PRODUCTS:** In perfect competition the goods produced by different firms are homogeneous or identical. All te commodities are uniform in the aspects of quantity and quality. there is no product differentiation in this market. Therefore, the customers prefer all commodities equally.
3. **FREE ENTRY AND EXIT:** There is a free entry and exit of te firms in perfect competition. Every firm has the freedom to enter the market and exit from the market. If the firms are getting abnormal profits then the new firms may enter the market. If the firms are getting losses, then the firms have the freedom to leave the industry. So, in the long run under perfect competition all firms get only normal profits.
4. **PERFECT INFORMATION ABOUT MARKET CONDITIONS:** In perfect competition the buyers and sellers must have the perfect knowledge with regard to the prices of various commodities at different supply and demand forces. Therefore, it is possible to avoid price discrimination in this market.
5. **PERFECT MOBILITY OF FACTORS OF PRODUCTION:** There is a perfect mobility of factors of production with in the country. This situation leads to uniform cost of production in the whole economy. It implies that different factors of production are free to seek employment in any industry that they may like to do.

6. **UNIFORM PRICE LEVEL:** All commodities are uniform in perfect competition in the quantity and quality. Therefore, the prices of the commodities are also uniform.
7. **NO TRANSPORT COST:** In perfect competition in order to maintain uniform price level, the transport costs should not be included in the price level.
8. **DIFFERENCE BETWEEN FIRM AND INDUSTRY:** Under perfect competition there is a difference between firm and industry. Firm is a production unit and industry is a group of similar firms.

### 10.3 PRICE DETERMINATION:

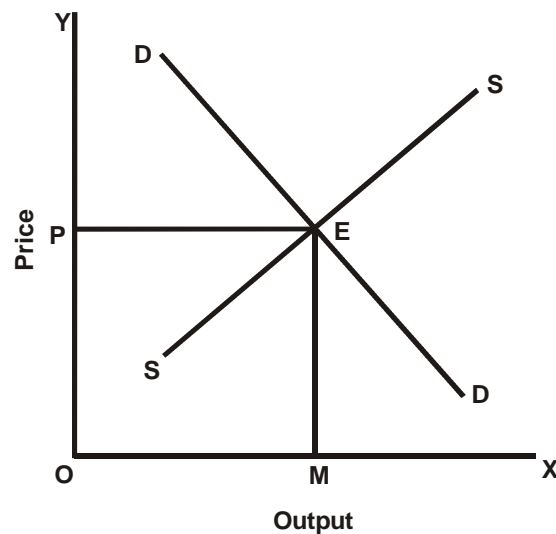
Generally prices are determined with the help of supply and demand forces. In perfect competition the price and output are determined at that point where the demand and supply both are equal. The following table explain the price determination under perfect competition.

Price (Rs.)	Demand	Supply
5	200	600
4	300	500
3	400	400
2	500	300
1	600	200

In the table above of the price of the commodity is Rs. 5 then there is a demand for 200 commodities and the supply is 600 commodities. If the price is reduced to one rupee, then the demand is increased to 600 commodities and the supply is decreased to 200 commodities. There is an inverse relationship between price and demand and there is a positive or direct relationship between price and supply. In the above table at Rs. 3 price level, there is demand for 400 commodities and the supply is also 400 commodities. Therefore, the price is determined as Rs. 3 in the above example.

#### DIAGRAMMATIC EXPLANATION:

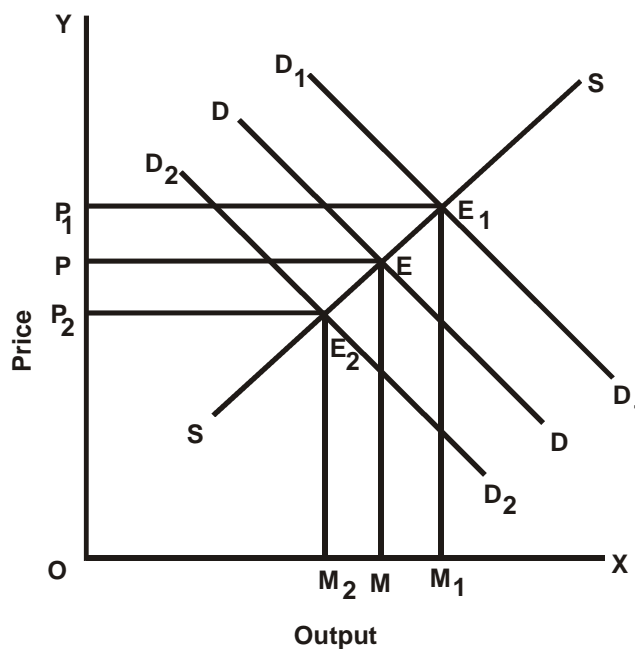
The price and output determination under perfect competition can be explained with the help of following diagram.



In the above diagram on X axis the output and on Y axis the price and determined. DD is the demand curve and it is falling down from left to right due to inverse relationship between price and demand. SS is the supply curve and it is increasing from left to right due direct relationship between price and supply. Both demand and supply curves are equal at point E. Therefore, the price is determined as OP and output as OM.

### 10.4 PRICE DETERMINATION WHEN DEMAND CHANGES AND SUPPLY REMAINS CONSTANT:

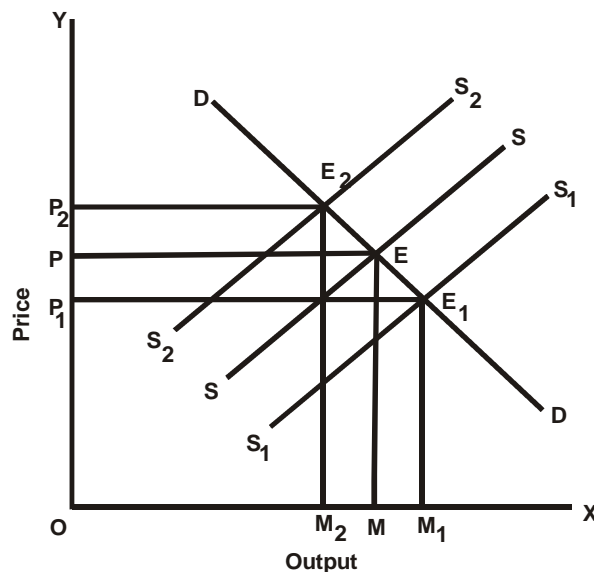
In perfect competition if supply being constant the equilibrium price rises when demand increases and when te demand decreases the price will fall down. This can be explained with the help of following diagram.



In the diagram the output is determined on X axis and price is determined on Y axis. DD is the demand curve and SS is the supply curve. In this diagram we are finding the price determination when demand changes and supply remains constant. The demand is increased from DD to  $DD_1$  and this increased demand curve and constant supply curve intersect each other at point  $E_1$ . Therefore, the equilibrium price is increased from OP to  $OP_1$  and later the output is increased from OM to  $OM_1$ . when the demand is decreased from DD to  $D_2D_2$ , then this decreased demand curve and constant supply curve both are equal at point  $E_2$  and therefore, the price is decreased from OP to  $P_2$  and output is decreased from OM to  $OM_2$ .

### 10.5 PRICE DETERMINATION WHEN DEMAND REMAINS CONSTANT AND SUPPLY CHANGES:

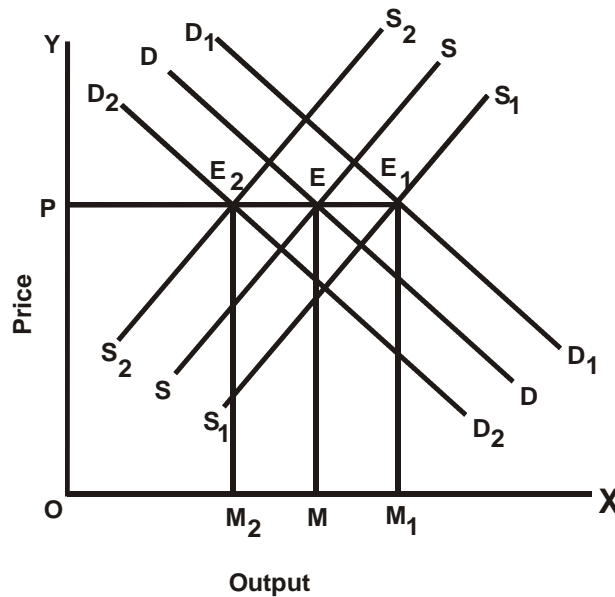
Under perfect competition if the demand being constant, the equilibrium price will rise when the supply decreases and when supply increases then the equilibrium price will fall. This can be explained with the help of following diagram.



In the diagram on X - axis the output and on Y axis the price are determined. DD is the demand curve and SS is the supply curve. When the supply is increased from SS to  $S_1S_1$ , then the constant demand curve and the increased supply curve both are equal at point  $E_1$ . So the output is increased from OM to  $OM_1$  and the price is decreased from OP to  $OP_1$ . when the supply is decreased from SS to  $S_2S_2$ , then the decreased supply curve and the constant demand curve both are equal at point  $E_2$ . Therefore, the output is decreased from OM to  $OM_2$  and the price is increased from OP to  $OP_2$ .

## 10.6 PRICE DETERMINATION WHEN BOTH DEMAND AND SUPPLY ARE CHANGED:

In perfect competition when the demand and supply both are changed in the same direction and in the same rate, then the equilibrium price may not be changed. This can be explained with the help of following diagram.



In the diagram on the X - axis the output and on Y - axis the price are determined.  $DD$  is the demand curve and  $SS$  is the supply curve and both are equal at point  $E$  and therefore, the price is determined as  $OP$  and the output is determined as  $OM$ . Suppose the demand and supply both are increased from  $DD$  to  $D_1D_1$  and from  $SS$  to  $S_1S_1$  respectively. Now the increased demand and supply curves are equal at point  $E_1$ . At this point even though the output is increased from  $OM$  to  $OM_1$  the price remains constant as  $OP$ . In the same way if the demand and supply both are decreased from  $DD$  to  $D_2D_2$  and from  $SS$  to  $S_2S_2$  respectively, then also the price remains constant as  $OP$  even though the output is decreased from  $OM$  to  $OM_2$ . Therefore, under perfect competition, there will be no change in price if demand and supply both are changed in the same direction and same rate.

## 10.7 EQUILIBRIUM OF THE FIRM AND INDUSTRY UNDER PERFECT COMPETITION:

Market is a condition where buying and selling transactions are undertaken. On the basis of competition the markets are classified into perfect competition and imperfect competition. According to Liftwitch, perfect competition is a market in which there are many firms selling identical

products with no firm large enough relative to entire market to be able to influence the market price. According to Mrs. Joan Robinson perfect competition prevails when the demand for the output of the each producer is perfectly elastic.

In perfect competition there are large number of buyers and sellers. All the products are homogeneous in the quantity and quality. In this market there is free entry and exit of the firms and perfect availability of market information. There is a perfect mobility of factors of production. There is a uniform price and the transport costs are not included in the price level in perfect competition.

There is a difference between firm and industry under perfect competition. Firm is a production unit and where as industry is a group of firms. Equilibrium is a balancing position or resting point. A firm can get an equilibrium position where it has no desire to increase or decrease its output. A consumer is in equilibrium position where he gets maximum satisfaction with the help of his limited income. The producer gets an equilibrium position if he gets maximum production with the available resources. According to Bilas, "where profits are maximised we say the firm is in equilibrium."

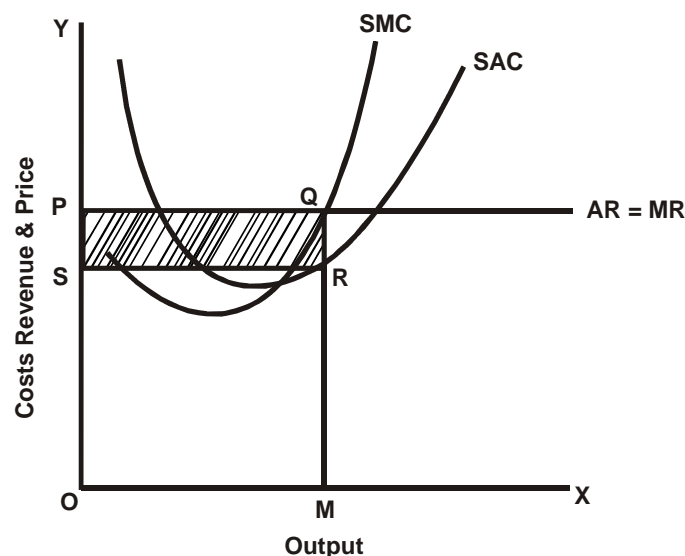
### 10.8 EQUILIBRIUM OF THE FIRM UNDER PERFECT COMPETITION:

The following conditions are necessary for attainment of equilibrium of the firm under perfect competition.

1. The firm must try to get maximum profits.
2. Marginal cost must become equal to marginal revenue and at that equilibrium point price and output are determined.
3. The marginal cost curve must cut the marginal revenue curve from below or from left side. At that equilibrium point the MC curve is at rising stage.

### 10.9 EQUILIBRIUM OF THE FIRM IN SHORT PERIOD WITH ABNORMAL PROFITS:

In perfect competition the firm can get abnormal profits or losses in the short period. The following diagram explains how the firm can get abnormal profits and reaches the equilibrium position in the short run.

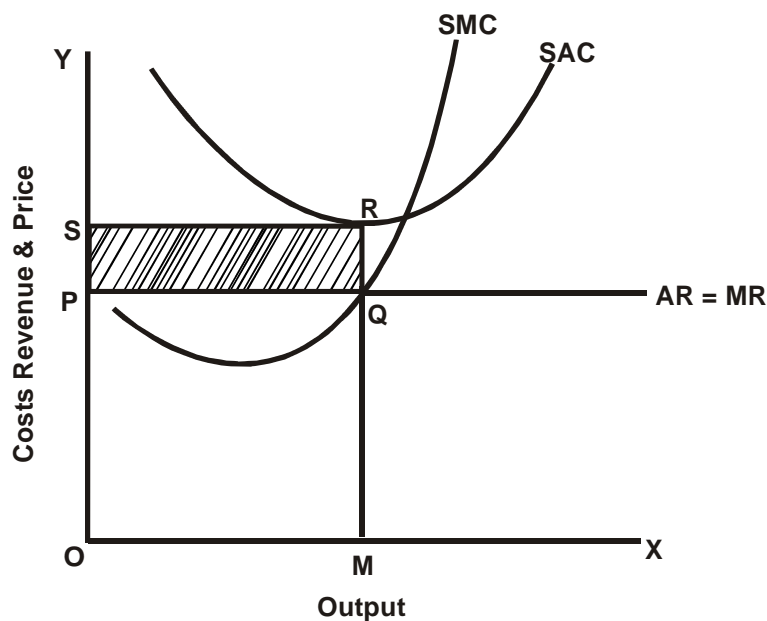


In the above diagram on X - axis the output and on Y - axis the cost, revenue and price are determined. In perfect competition the average revenue and marginal revenue curves are equal and therefore, AR and MR curves are equal and parallel to X axis due to uniform price level. In this diagram SMC curve is equal to MR curve at point Q. So, at that equilibrium point the output is determined as OM and the price as OP. Moreover at that equilibrium marginal cost curve is at rising stage. OPQM is the total revenue and OSRM is the total cost. If we deduct the total cost from the total revenue, then we can get the total profits. Therefore -

$$OPQM - OSRM = PQRS = \text{Profits.}$$

### 10.10 EQUILIBRIUM OF THE FIRM IN SHORT PERIOD WITH LOSSES:

In perfect competition in the short run some firms may get losses. We can know this thing with the help of following diagram.

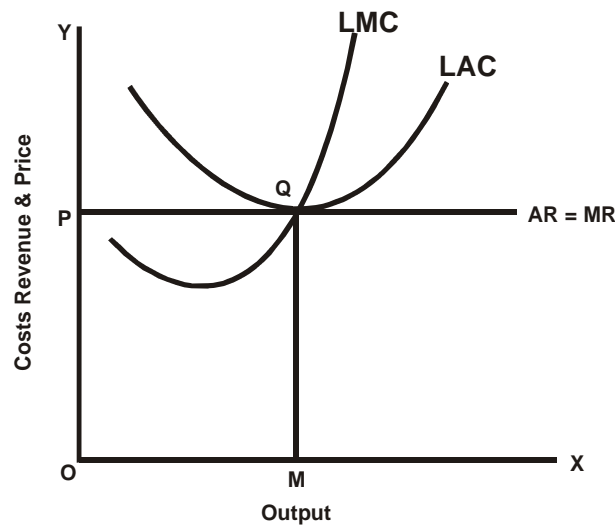


In the diagram on X - axis the output and on Y - axis the costs, revenue and price are determined. The marginal cost and marginal revenue are equal at point Q and therefore it is an equilibrium point. At this point average cost (SAC) is more than average revenue (AR). In the diagram OM is the output and OP is the price. OPQM is the total revenue and OSRM is the total cost. In this diagram total cost is more than total revenue and therefore, the firm is getting losses. In this diagram -

$$OSRM - OPQM = PQRS = \text{Losses}$$

### 10.11 EQUILIBRIUM OF THE FIRM IN THE LONG RUN:

Under perfect competition in the long run the firm does not get abnormal profits or losses because of free entry and exit of the firms. In the long run all firms get only normal profits. In this period both AC and AR become equal and therefore, the firms get only normal profits. This can be explained with the help of following diagram.



In the diagram on X axis the output and on Y axis the costs, revenue and price are determined. Both marginal cost and marginal revenue are equal at point Q and it is an equilibrium point. At this equilibrium point average cost (LAC) and average revenue (AR) both are equal. OPQM is the total revenue and also total cost. Therefore, the firm is getting only normal profits in the long run. These normal profits are included in the cost of production.

### 10.12 Equilibrium of The Industry Under Perfect Competition:

Industry is a group of firms producing similar products. In fact the concept of industry exists only under perfect competition. The industry is in equilibrium when it has no tendency to increase or decrease its level of output. Therefore, equilibrium of the industry means that forms are neither moving in or nor moving out.

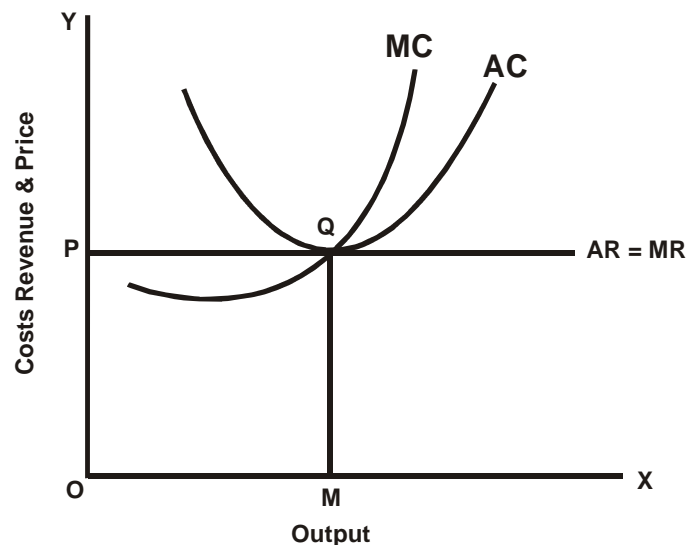
In order to attain the equilibrium position of the industry under perfect competition the following conditions are observed -

1. All firms in the industry get only normal profits.
2. The industry gets an equilibrium position where the marginal cost is equal to marginal revenue.
3. In the case of industry at equilibrium point the marginal cost, average cost, marginal revenue and average revenue are equal.

#### DIAGRAMMATIC EXPLANATION:

Under perfect competition in the case of the firm in the short period there are some possibilities of getting abnormal profits or losses. But in the case of industry, there is no possibility of getting of abnormal profits or losses. The industry gets only normal profits. This can be explained with the help of following diagram.





In the diagram on X axis the output and on Y axis the costs, revenue and price are determined. In this diagram the MC and MR are equal at point Q. At this point the MC, MR, AC and AR are equal. The output is determined as OM and the price as OP. OPQM is the total revenue and also total cost. So, there are no abnormal profits or losses. The industry is getting only normal profits. These normal profits are included in the cost of production.

### 10.13 CONCLUSION:

In perfect competition the price, average revenue and marginal revenue are the same. There is a uniform price in perfect competition. Actually the concept of perfect competition is only a myth. It is not a realistic concept. The most important essential condition for equilibrium of the firm or industry under perfect competition is the marginal cost must become equal to marginal revenue.

### 10.10 POINTS TO BE REMEMBER:

1. There are various definitions with regard to perfect competition.
2. Perfect competition is having some features.
3. In perfect competition the price is determined at that point where demand and supply are equal.
4. Equilibrium is a resting point or balancing position.
5. Certain conditions are necessary for attainment of equilibrium of the firm under perfect competition.
6. In the short period under perfect competition some firms may get abnormal profits and some firms may get losses also.
7. In the long run all firms get only normal profits.

8. For attainment of equilibrium of the industry certain conditions are observed.
9. All firms in the industry get only normal profits.

### 10.15 KEY CONCEPTS:

1. **Firm** : Firm is a production unit. Goods produced by a single unit of production unit is known as firm.
2. **Industry** : Industry is a group of similar firms. The group of firms which are producing similar products is known as industry.
3. **Equilibrium** : Equilibrium is a balancing position or resting point.
4. **Marginal Cost** : Marginal cost is the additional cost while is arised due to production of one more unit of output.
5. **Average Cost** : Average Cost is the unit cost. If we divide the total cost by the total quantity of output, then we get average cost.
6. **Marginal Revenue** : Marginal revenue is the additional revenue which we get because of selling of additional commodity.
7. **Average Revenue** : Average Revenue is the unit revenue. If we divide the total revenue by the total number of goods sold, then we can get average revenue.

### 10.16 MODEL QUESTIONS:

#### I. Essay Questions:

1. What is perfect competition and have the price is determined under it.
2. Explain the equilibrium of the firm and industry under perfect competition.

#### II. Short Essay Questions:

1. Write about the features of perfect competition.
2. Explaint he equilibrium of the firm under perfect competition.
3. Write about the equilibrium of the industry under perfect competition.

#### III. Very Short Questions:

1. Conditions for equilibrium ofthe firm under perfect competition.
2. Condition for equilibrium of the industry under perfect competition.
3. Features if perfect competition.

**10.17 REFERENCE BOOKS:**

1. R.A. Bilas : Micro Economic Theory
2. Stonier & Hague : A Text Book of Economic Theory
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4. M.L. Jhingan : Micro Economic Theory
5. తెలుగు అకాడమి : అర్థశాస్త్ర సిద్ధాంతం
6. Centre for Distance Education : ఆర్థికశాస్త్రం - సిద్ధాంతము

## **Lesson : 11**

# **MONOPOLY AND DISCRIMINATING MONOPOLY**

### **11.0 AIMS AND OBJECTIVES:**

The main aim of this chapter is to study the price and output determination under monopoly and discriminating monopoly. We also observe the main differences between perfect competition and monopoly market in this chapter.

### **CONTENTS:**

- 11.0 Aims and Objectives**
- 11.1 Introduction**
- 11.2 Features of Monopoly**
- 11.3 Price and output determination under monopoly**
- 11.4 Price determination when costs are increasing or constant or falling**
- 11.5 Monopoly Price and Elasticity of Demand**
- 11.6 Price discrimination under monopoly**
- 11.7 Kinds of price discrimination**
- 11.8 Conditions for price discrimination**
- 11.9 Price and output determination under discriminating monopoly**
- 11.10 Degrees in price discrimination**
- 11.11 Importance of price discrimination**
- 11.12 Differences between perfect competition and monopoly**
- 11.13 Conclusion**
- 11.14 Points to be remember**
- 11.11 Key Concepts**
- 11.16 Model Questions**
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## 11.1 INTRODUCTION:

The word monopoly has been derived from the combination of two words like 'mono' and 'poly'. Mono means 'single' and 'poly' means 'seller'. Therefore, monopoly means single seller. It is the ordinary meaning of monopoly. In economics monopoly is said to be existed when a firm is the single seller or producer of a product where there are no close substitutes for it.

### DEFINITIONS:

According to Ferguson, "a pure monopoly exists when there is only one producer in the market. There are no dire competitions."

According to Mc. Connel, "pure or absolute monopoly exists when a single firm is the sole producer of a product for which there are no lose substitutes."

## 11.2 FEATURES:

The following are the main features of monopoly market.

1. **SINGLE PRODUCER:** Under monopoly there is only one seller or producer. He controls the entire supply of the commodities. Monopoly may be an individual or firm or a partnership or a joint stock company or a state. There is no competition in monopoly market.
2. **NO CLOSE SUBSTITUTES:** In monopoly market there are no close substitute products. There are no other firms producing the similar or near commodities for the product of monopoly.
3. **NO FREE ENTRY:** The new firms have no freedom to enter the market in the monopoly. Therefore, the monopoly firm can get abnormal profits in the short run as well as in the long run.
4. **NO DIFFERENCE BETWEEN FIRM AND INDUSTRY:** In monopoly market there is no differernce between firm and industry. There is only one firm in this market and the other firms should not produce the similar products which are produced by the monopoly firm. Therefore, in monopoly market, the firm and industry both are same.
5. **REVENUE CURVES FALLDOWN FROM LEFT TO RIGHT:** The revenue curves are falling down from left to right in monopoly market. The monopolist can control only price or output. If the monopolist to sell more, he must reduce the price level and if he wants to fix more price, he must reduce the output.
6. **PRICE MAKER:** In monopoly market, the monopolist has complete control the supply of the commodity. Due to large number of buyers, demand of any one buyer constitute a small part of the total demand. Therefore, buyers have to pay the price fixed by the monopolist.

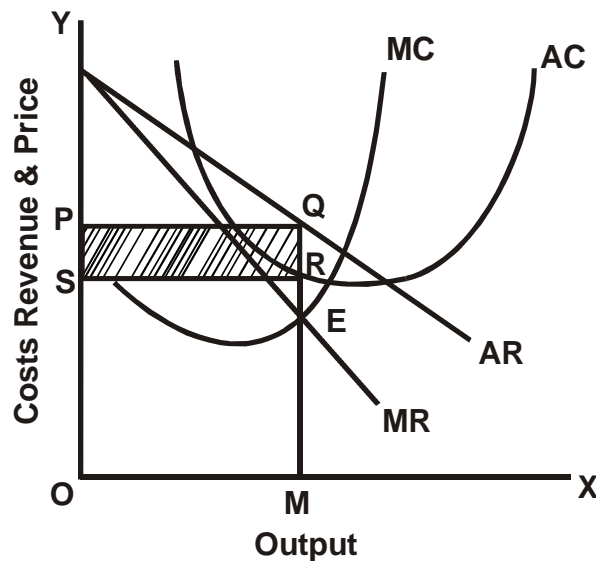
### 11.3 PRICE AND OUTPUT DETERMINATION UNDER MONOPOLY:

The following conditions are necessary for the price and output determination under monopoly market.

1. The aim of the monopolist is to get maximum profits. He must produce the goods to that extent where the marginal cost becomes equal to marginal revenue. At that level he will get an equilibrium position and gets maximum profits.
2. The average revenue and marginal revenue curves fall down from left to right with the increase of output in monopoly market. If the monopolist wants to sell more output, he must reduce the price level and therefore, the revenue curves are falling down from left to right with the increase of output.
3. In monopoly the average revenue is equal to price and therefore, the AR line is the demand line.
4. Under monopoly market the MR falls more rapidly than the AR with the increase of the output.
5. In monopoly market, the monopolist fixes the output at that point where the marginal cost is equal to marginal revenue. On the basis of this, he will fix the price on the average revenue line and this is more than MR and AC. The difference between AR and AC is the amount of profit.

#### DIAGRAMMATIC EXPLANATION:

In monopoly market the output is determined at that point where MC and MR are equal and on the basis of this the price is determined on AR line. This can be explained with the help of following diagram.



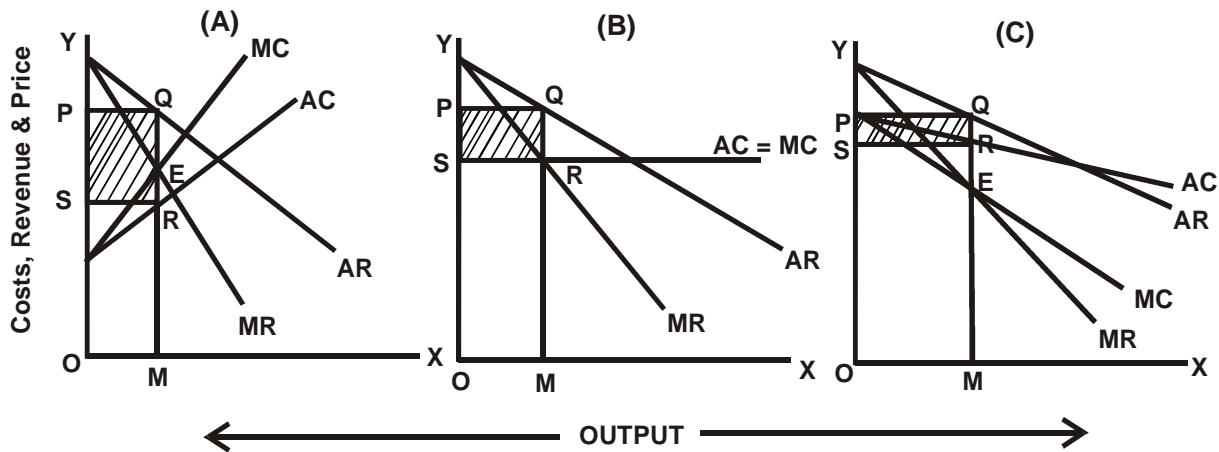
In the above diagram on X - axis the output and on Y - axis the costs, revenue and price are determined. In this diagram AR is the average revenue, Mr is the marginal revenue, AC is the average cost and MC is the marginal cost. In monopoly market where MC and MR are equal and at that point only the output is determined. On the basis of this equilibrium point the price is determined on AR line. In the above diagram the MC and MR are equal at point 'E'. Therefore, the output is determined as OM. On the basis of this the price is determined as OM on the basis of this the price is determined on AR line at point Q. Therefore, the price is OP or QM. The difference between AR and AC is the amount of abnormal profit per one unit. Therefore, QR is the unit profit. If we deduct the total cost from the total revenue, we can get the total amount of profit. Therefore -

$$OPQM - OSRM = PQRS = \text{Profit}$$

In the above manner to monopoly firm may get abnormal profits in the short run. In the short run the monopoly may get normal profits or losses. In the long run also the monopoly firm may get abnormal profits because of no free entry of new firms in the market.

### 11.4 PRICE DETERMINATION WHEN COSTS ARE INCREASING OR CONSTANT OR FALLING:

In price and output determination, there is a difference between perfect competition and monopoly. In perfect competition at equilibrium point the cost curves especially the marginal cost curve is at rising stage. But in monopoly market the cost curves may be increased or constant or decreased at equilibrium point. We can know these things with the help of following diagrams.



In the above diagrams on X axis the output and on Y axis the costs, revenue and price are determined. In diagram A the cost curves are increasing MC and MR are equal at point E and therefore, the output is determined as OM and on the basis of this the price is determined on AR line at point Q. Therefore, OPQM is the total revenue and OSRM is the total cost. So, PQRS is the total amount of profit.

In diagram (B) the marginal cost and marginal revenue (MC and MR) are equal at point R. OPQM is the total revenue and OSRM is the total cost and therefore PQRS is the total amount of profit. In this diagram AC and MC are constant and therefore, they are parallel to X axis.

In the diagram C the cost curves are falling. Marginal cost (MC) and marginal revenue (MR) are equal at point E and therefore it is equilibrium point. In this diagram OPQM is the total revenue and OSRM is the total cost and therefore PQRS is the total amount of profit.

## 11.5 MONOPOLY PRICE AND ELASTICITY OF DEMAND:

There is a relationship between monopoly price and elasticity of demand. The concept of elasticity of demand is more helpful to monopolist in price determination. The main motive of monopolist is to get maximum profits. In order to get maximum profits the monopolist fixes more price in the case of those goods in which the demand is inelastic one and fixes less price in the case of elastic demand goods. If the monopolist is fixing the price on the basis of elasticity of demand, then only he will get maximum profits.

## 11.6 PRICE DISCRIMINATION UNDER MONOPOLY:

Price discrimination refers to the changing of different prices from different buyers by the monopolist for the same type of products. Therefore, the practice of selling the same commodities at different prices to different buyers is known as price discrimination. Under monopoly market only the price discrimination is possible.

### DEFINITIONS:

Mrs. Joan Robinson has defined the price discrimination as "the act of selling the same article produced under single control at different prices to different buyers."

According to Stigler, "price discrimination refers to the sale of technically similar products at prices which are not proportional to their marginal cost."

## 11.7 KINDS OF PRICE DISCRIMINATION:

1. **PERSONAL DISCRIMINATION:** In this personal discrimination the monopolist changes different prices from different customers for the same type of product on the basis of ability to pay. For example a doctor may charge more fee from a rich patient and less fee from a poor patient for the same services rendered.
2. **PLACE OR LOCAL DISCRIMINATION:** The monopolist changes different prices in different markets for the same product under place discrimination. Duruping is the best example for place discrimination. According to this the producer may sell the same commodity at one price at home market and at the other price in abroad. Place discrimination is also known as local discrimination or geographical discrimination.
3. **TRADE OR USE DISCRIMINATION:** In this trade discrimination the monopolist will charge different prices for different types of uses of same commodity. For example, electricity will be sold at the lower price for agriculture purpose and at higher price for domestic purpose.



## 11.8 CONDITIONS FOR PRICE DISCRIMINATION:

The price discrimination is possible when the following conditions are prevailing.

1. **MORE THAN ONE MARKET:** There must be two or more than two separate markets, otherwise the price discrimination is not possible. For charging different prices from different persons, different markets must be existed.
2. **DIFFERENT ELASTICITIES:** The elasticity of demand in each market must be different. It means if one market is less elastic then the other market must be more elastic. This condition is very important condition for price discrimination. There will be no scope for price discrimination if the elasticity of demand is equal in all markets.

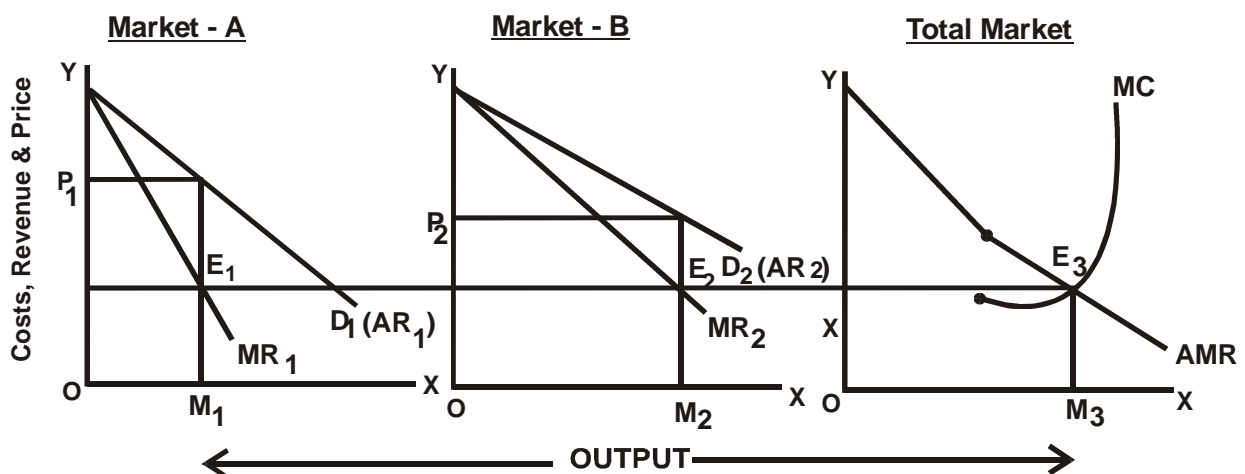
## 11.9 PRICE AND OUTPUT DETERMINATION UNDER DISCRIMINATING MONOPOLY:

The main aim of price discrimination under monopoly is to get maximum profits. The following conditions must be observed for getting of maximum profits and for price and output determination under discriminating monopoly.

1. The monopolist must fix more price in the case of inelastic demand and less price in the case of elastic demand.
2. All the marginal revenues in different markets must be equal to the marginal cost.

### DIAGRAMMATIC EXPLANATION:

The following diagrams explain the price and output determination under discriminating monopoly where there are two markets.



In the above diagrams on X axis the output and on Y axis the costs, revenue and price are determined. In market A,  $MR_1$  is the marginal revenue and  $D_1$  is the demand or average revenue curves. In this market the demand is inelastic one. In market B,  $MR_2$  and  $D_2$  are the marginal revenue and demand curve respectively. The demand curve is also known as average revenue curve. In this market the demand is elastic one. If we combine the marginal revenue curves of these two markets ( $MR_1 + MR_2$ ), then we can get the marginal revenue curve ( $AMR$ ) in the total market. At point  $E_3$  the marginal revenue is equal to marginal cost. Therefore, the output is  $OM_3$ . This equilibrium point is extended to market A and market B. The price in market A i.e.  $OP_1$  is more than the price in market B i.e.  $OP_2$ .

### 11.10 DEGREES IN PRICE DISCRIMINATION:

A.C. Pigou has distinguished the degrees of price discrimination into three on the basis of the degree or extent of price discrimination. Under first type of price discrimination the monopolist will fix different prices to different buyers in that way in which the consumer surplus is not allowed. This type of price discrimination is called perfect price discrimination.

In the second type of price discrimination the monopolist is fixing different prices to different buyers in that way in which he allows a part of consumer surplus but not the complete consumer's surplus.

In third degree of price discrimination the monopolist divides the buyers into two or more classes or groups or markets and charges different prices in different markets. In this type the markets are divided on the basis of the elasticity of demand. This degree of price discrimination is the most common one.

### 11.11 IMPORTANCE OF PRICE DISCRIMINATION:

1. There are several services such as rail transportation etc., which cannot be worked profitably unless the price discrimination is allowed. Uniform price for such services will lead to low income or losses to entrepreneur. In order to avoid those losses the price discrimination must be implemented.
2. Some times, for promotion of welfare of the community the price discrimination is compulsory. For example, if the doctor charges more fee from rich and low fee from the poor, then the public welfare can be promoted.
3. The government can reduce the economic inequalities to some extent with the help of price discrimination.
4. Price discrimination enables the monopolist to obtain a higher total revenue and larger output. Here the output would be identical with the perfectly competitive output. Therefore, the society at large is benefited, since output under discriminating monopoly is larger than with a single price.

5. When the monopolist fixes higher price in the case of inelastic demand goods and lower price for elastic demand goods and then the demand and output will not be badly effected.

## 11.12 DIFFERENCES BETWEEN PERFECT COMPETITION AND MONOPOLY:

Perfect competition and monopoly are the too extreme contradictory extreme concepts. There are some difference between perfect competition and monopoly. Perfect competition is that type of market where there are large number of sellers selling similar products and where the activity of single seller or buyer may is said to be existed when the firm iste sole producer or seller of the product where there are no close substitutes for this product.

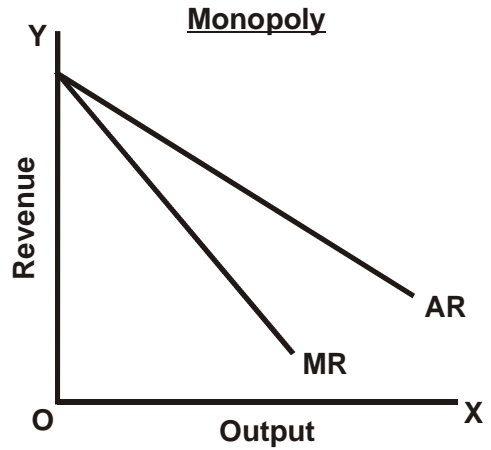
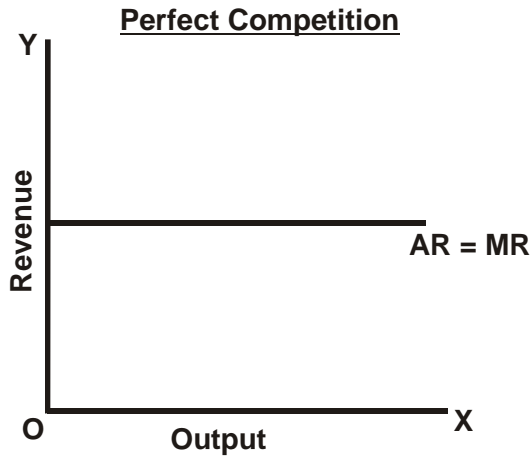
In perfect competition there are large number of buyers and sellers and all products are homogeneous. In this market there is a free entry and exit of the firms and also perfect information about market conditions. There is also perfect of mobility of factors of production. In perfect competition, there is a uniform price level. In this competition the transport costs should not be included in te price level. There is a difference between firm and industry under perfect competition.

In monopoly market there is only isngle seller or producer. There are no close substitute products for monopoly products. In this market there is no difference between firm and industry. The new firms have no right to enter the market. The monopolist has the controlling power on only the price or output. In this market therevenue curves fall down from left to right with the increase of output.

### DIFFERENCES:

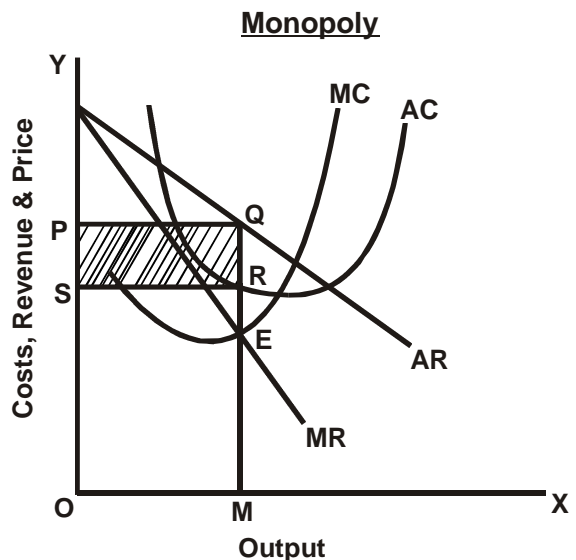
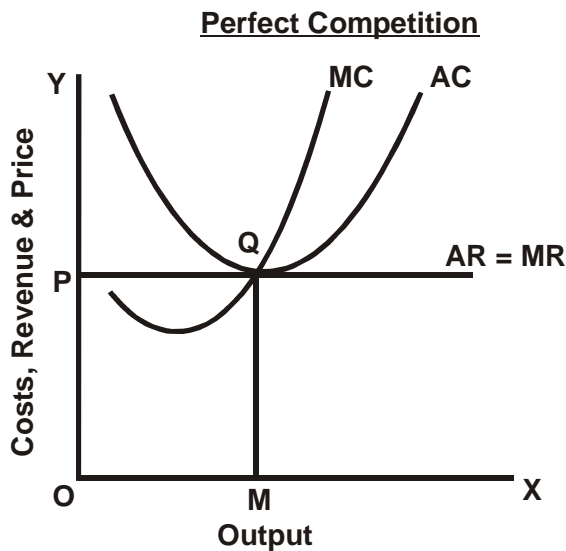
The following are the main differences between perfect competition and monopoly.

1. **NUMBER OF SELLERS:** In perfect competition there are large number of sellers who are producing homogeneous products. Therefore, the activity of single seller may not influence the market price. But in monopoly there is a single seller. He controls entire supply of the commodities. In this market there is no competition.
2. **NATURE OF REVENUE CURVES:** In perfect competition because of uniform price the average revenue and marginal revenue are equal. They are parallel to X axis. But in monopoly the average and marginal revenue curves falldown from left to right. We can know these things with the help of following diagrams.



In perfect competition AR and MR both are the same and they are parallel to X axis. In monopoly market AR and MR both are falling down from left to right. If the monopolist wants to sell more, he must reduce the price level and if he wants to fix more price he must reduce the output.

- PRICE AND OUTPUT DETERMINATION:** In perfect competition the price and output are determined at that point where MC and MR are equal. But in monopoly where MC and MR both are equal and at that equilibrium point the price is determined on AR line. We can know these things with the help of following diagrams.



In the case of perfect competition MC and MR both are equal at point Q and therefore, the point is determined as OM and price as OP. In monopoly market where MC and MR both are equal and at that equilibrium point only the output is determined and on the basis of the price is determined on AR line at point Q. So, the price is determined as OP.

4. **ENTRY AND EXIT OF THE FIRMS:** In perfect competition there is free entry and exit of firms. The new firms may enter the market when the firms are getting abnormal profits and leave the market when they are getting losses. But in monopoly the other firms have no freedom to enter the market.
5. **NATURE OF COST CURVES:** In perfect competition the firm gets an equilibrium position where the marginal cost is at rising stage. If the marginal cost curve falls down, then there is no possibility of equilibrium between MC and Mr. Under monopoly the firm may get equilibrium position where the MC is at a rising stage or constant or falling stage.
6. **DIFFERENCE BETWEEN FIRM AND INDUSTRY:** There is a difference between firm and industry under perfect competition. Firm is a production unit and industry is a group of similar firms. But in monopoly market, there is no difference between firm and industry and both are same.
7. **NORMAL PROFITS AND ABNORMAL PROFITS:** Under perfect competition in the short period the firm may get abnormal profits. But in the long run because of free entry and exit, the firm gets only normal profits. But in monopoly the firm may get abnormal profit in the short period as well as in the long period because of no free entry of new firms.
8. **NATURE AS AVERAGE COST AT EQUILIBRIUM POINT:** Under perfect competition the average cost becomes minimum at equilibrium point. In the above diagram in the case of perfect competition the average cost becomes minimum at point Q. But in monopoly market the firm attains equilibrium where the average cost is at falling stage. In the diagram in the case of monopoly the average cost curve i.e. Ac is falling stage at the equilibrium point i.e. at point E.
9. **PRICE AND OUTPUT:** In perfect competition the output is more and the price is less and where as in monopoly the output is less and the price is more.
10. **UNIFORM PRICE AND PRICE DISCRIMINATION:** In perfect competition there is a uniform price and there is no price discrimination. Fixing of different prices to different customers for the same commodity is said to be price discrimination. But in monopoly, there is a possibility for price discrimination. Monopolist can fix different prices to different customers for the same commodities.
11. **PRICE TAKER AND PRICE MAKER:** In perfect competition the firm is a price - taker and where as in monopoly the firm is a price maker. In perfect competition the firms must follow and take the existing price. Under monopoly, the monopolist has full control over the supply of the commodity and therefore, the monopolist is price - maker.

### 11.13 CONCLUSION:

In this chapter we discussed the price and output determination under monopoly and discrimination monopoly. Monopoly is said to be existed when a firm is the single seller or producer of a product where there are no close substitutes for it. The practice of selling the same commodities at different prices to different buyers is known as price discrimination. The monopolist will get maximum profits if he will fix prices on the basis of elasticity of demand.

### 11.14 POINTS TO BE REMEMBER:

1. Monopoly is a market where there is a single seller in which there are no close substitutes.
2. There are some features with regard to monopoly.
3. Certain conditions are necessary for price and output determination under monopoly.
4. Price and output are determined in monopoly at the time of increasing costs, constant cost and diminishing costs.
5. There is a relationship between monopoly price and elasticity of demand.
6. The practice of selling the same type commodities at different prices to different buyers is known as price discrimination.
7. There are various kinds of price discrimination.
8. The price discrimination under monopoly is possible when certain conditions are prevailing.
9. According to A.C. Pigou there are three degrees of price discrimination.
10. Price discrimination is supported on various grounds.
11. There are some differences between perfect competition and monopoly.

### 11.11 KEY CONCEPTS:

1. **Monopoly** : Monopoly is that type of market where there is a single firm producing the goods in which there are no close substitutes.
2. **Price Discrimination** : The practice of selling the same commodities at different prices to different buyers is known as price discrimination.
3. **Personal Discrimination** : If the monopolist charges different prices from different customers for the same type of product on the basis of ability to pay, then it is known as personal discrimination.

4. **Place or Local Discrimination** : In this monopolist changes different prices in different places for the same product. It is also known as geographical discrimination.
5. **Trade or Use Discrimination** : The monopolist will change different prices for different types of uses of the same commodity.

### 11.16 Model Questions:

#### I. Essay Questions:

1. What is monopoly and how the price and output are determined under it.
2. What is meant by price discrimination and how the price and output are determined under discriminating monopoly.
3. Explain the main differences between perfect competition and monopoly.

#### II. Short Essay Questions:

1. Write about the features of monopoly.
2. Explain the price and output determination under monopoly in different types of costs.
3. Write about the importance of price discrimination.

#### III. Very Short Questions:

1. Monopoly price and elasticity of demand.
2. Types of price discrimination.
3. Conditions for price discrimination under monopoly.

### 11.17 Reference Books:

1. R.A. Bilas : Micro Economic Theory
2. Stonier & Hegue : A Text Book of Economic Theory
3. M.L. Jhingon : Micro Economic Theory
4. K.K. Dewett : Modern Economic Theory
5. తెలుగు అకాడమి : ఆర్థికశాస్త్ర సిద్ధాంతం
6. Centre for Distance Education : ఆర్థికశాస్త్రం - సిద్ధాంతము

## **Lesson : 12**

# **MONOPOLISTIC COMPETITION & OLIGOPOLY**

## **12.0 AIMS AND OBJECTIVES:**

The main aim of this chapter is to analyse the equilibrium of the firm and industry in monopolistic competition. We also observe the nature and price determination under duopoly market. In this chapter we study the nature, feature and types of price determination under Oligopoly market.

## **CONTENTS:**

- 12.0 Aims and Objectives**
- 12.1 Introduction**
- 12.2 Features**
- 12.3 Short run equilibrium of the firm under monopolistic competition**
- 12.4 Long run equilibrium**
- 12.5 Difference between perfect competition and monopolistic competition**
- 12.6 Difference between monopoly and monopolist competition**
- 12.7 Duopoly**
- 12.8 Oligopoly Market**
- 12.9 Features of Oligopoly**
- 12.10 Price determination under Oligopoly**
- 12.11 Diagrammatic explanation - kinked demand method.**
- 12.12 Points to be remembered**
- 12.13 Important Concept**
- 12.14 Model Questions**
- 12.15 Reference Books**

## **12.1 INTRODUCTION:**

Prof. E.H. Chamberlin developed the concept of "Monopolistic Competition" in his book "The Theory of Monopolistic Competition" published in 1933. Monopolistic Competition refers to a



market situation where there are many sellers of a commodity, but the product of each seller differs from each other. It is one type of imperfect competition. It is also sometimes referred to as 'group equilibrium'. There are some features of perfect competition and some features of monopoly in this monopolistic competition. Therefore, it is the midway of perfect competition and monopoly.

### DEFINITIONS:

According to Lipton, "Monopolistic Competition is a market situation in which there are many sellers of a particular product, but the product of each seller is in some way differentiated in the minds of consumers from the product of every other seller."

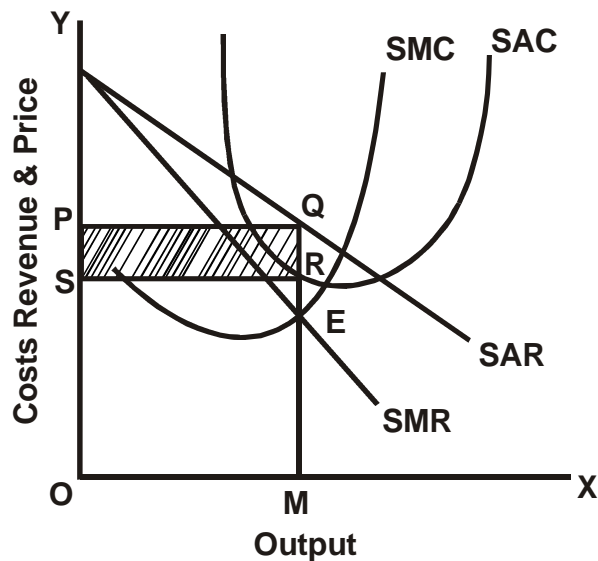
According to Joe S. Bain "Monopolistic Competition" is found in the industry where there is a large number of small sellers selling differentiated but close substitute products."

### 12.2 FEATURES:

1. **EXISTENCE OF LARGE NUMBER OF FIRMS:** There are a large number of firms in monopolistic competition. The output of each firm is very small in the total output. Each firm acts independently without bothering about the reactions of the rivals because of the existence of a large number of firms.
2. **PRODUCT DIFFERENTIATION:** Under monopolistic competition there is a product differentiation. In this competition products are not homogeneous as in perfect competition and they are not remote substitutes as in monopoly. These products may be close substitutes. For example, Colgate tooth paste, Promise tooth paste, Close-up tooth paste etc... are close substitutes. Product differentiation can be brought about in so many ways.
3. **FREE ENTRY AND EXIT:** In monopolistic competition there is a free entry and exit of the firms. There is no difficulty for a new firm to enter the market or to leave the market under monopolistic competition. Because of the existence of a large number of firms there is a free entry and exit.
4. **LACK OF PERFECT KNOWLEDGE:** There is no perfect knowledge with regard to prices, quality of the products and quantity of the product produced in the market. The buyers do not know about all these products. The sellers do not know the exact preferences of buyers and are unable to get advantage out of the situation.
5. **EXCESS CAPACITY:** In monopolistic competition the firms produce the goods up to that level where the average cost is at a falling stage. The firms do not produce the output up to that level where the long run average cost is minimum. In monopolistic competition the amount of output that is produced by the firm is less than the ideal output. This is called excess capacity.
6. **SELLING COSTS:** Generally the costs on advertisements are commonly known as selling costs. According to Chamberlin, selling cost is that cost which shifts the demand curve towards the right side. Therefore, the selling costs are useful for the increase of demand for the product. The producer spends on selling costs until where the additional revenue becomes zero. In real sense the selling cost will not promote the welfare of the consumers with the help of advertisements; the firms may change the tastes and preferences of the consumers.

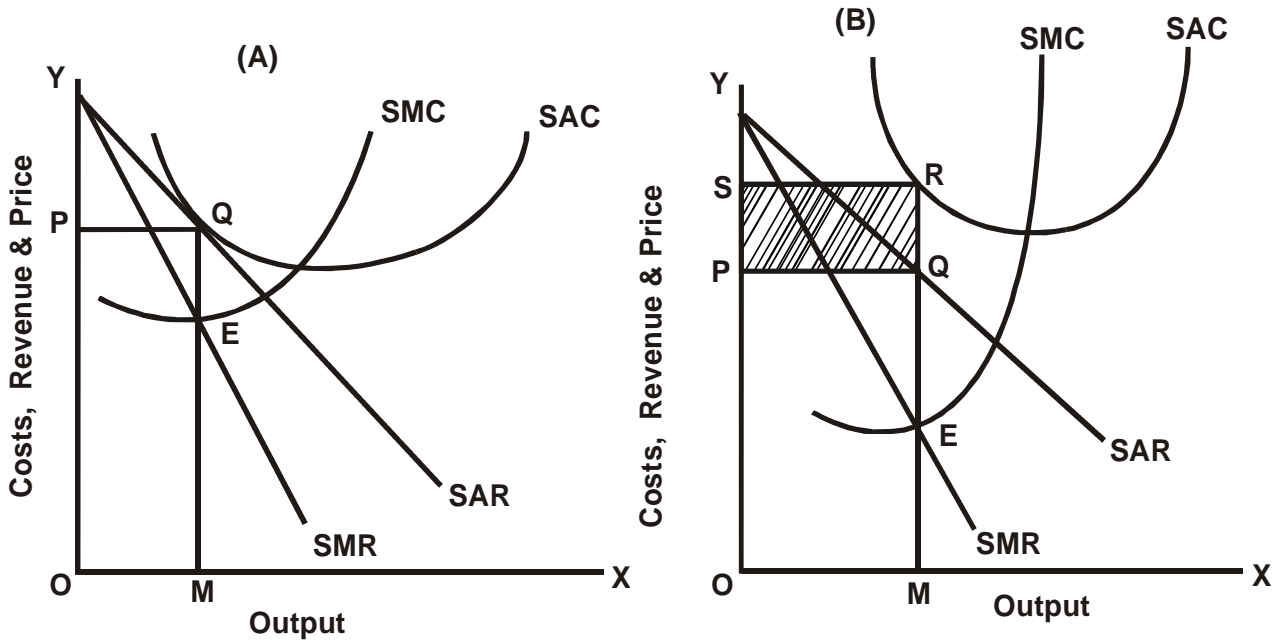
## 12.3 SHORT RUN EQUILIBRIUM OF THE FIRM UNDER MONOPOLISTIC COMPETITION:

In the short run some firms may get abnormal profits and attains equilibrium position in the following way.



In the diagram on X axis the output and on Y axis the costs, revenue and price are determined. SAR is the short run average revenue curve and also demand line. SMR is the short run marginal revenue curve. SAC is the short run average cost curve and marginal revenue curves are equal at point 'E'. Therefore, the output is determined as OM and price is OP. OPQM is the total revenue and OSRM is the total cost. QR is the amount of abnormal profit of one unit. PQRS is the total amount of profit.

In the short period it is possible that some firms may get abnormal profits like in the above manner. In the same short period some firms may get normal profits and some other firms may get losses also in the following way.



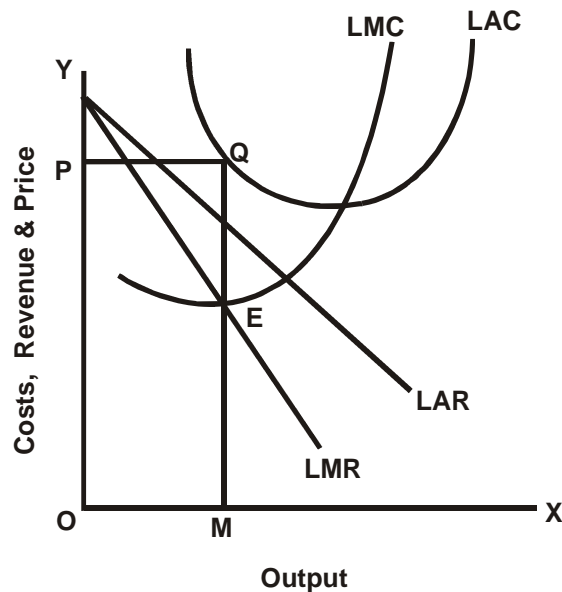
In the diagram 'A' the firm is getting only normal profits which are included in the cost of production. The equilibrium output is OM. At OM output level the price is OP which is also equal to average cost. In the diagram OPQM is the total revenue and also total cost. Therefore the firm is getting only normal profits.

In the diagram 'B' the firm is getting losses. In this diagram at OM output level the price is OP. But the average cost is OS. So the firm is getting SP or QR amount of unit loss OPQM is the total revenue and OSRM is the total cost. So PQRS is the total amount of loss. Therefore -

$$OSRM - OPQM = PQRS = \text{Losses}$$

### 12.4 LONG RUN EQUILIBRIUM:

There is a free entry and exit under monopolistic competition. If the existing firms are getting abnormal profits, then the new firms may enter the market and if the firms are getting losses, then they have freedom to leave the market. Therefore, in the long period the firms get only normal profits. This can be explained with the help of following diagram.



In the above diagram on X axis the output and on Y axis the costs revenue and price are determined. LAC is the long run average cost curve and LMC is the long run marginal cost curve. LAR is the long run average revenue curve and LMR is the long run marginal revenue curve. The LMC and LMR are equal at point E. So the output is determined as OM and price as OP. In the diagram at equilibrium point the average cost is equal to average revenue. So the firm is getting only normal profits in the long run. These normal profits are included in the cost of production.

## 12.5 DIFFERENCE BETWEEN PERFECT COMPETITION AND MONOPOLISTIC COMPETITION:

There are some differences between perfect competition and Monopolistic Competition.

1. Under perfect competition in the long run the firm gets an equilibrium position at that level where the AC is the minimum and where as in monopolistic competition the firm gets an equilibrium position where the AC is at falling stage. Therefore, in monopolistic competition, there is an excess capacity.
2. In perfect competition the revenue curves are parallel to X axis due to uniform price. In monopolistic competition the revenue curves are falling down from left to right.
3. In perfect competition all products are homogeneous in quantity and quality. But in monopolistic competition there is a product differentiation.
4. There is a perfect information about market conditions in perfect competition. But in monopolistic competition there is no perfect information about market conditions.

## 12.6 DIFFERENCE BETWEEN MONOPOLY AND MONOPOLISTIC COMPETITION:

Even though there are some similarities between monopoly and monopolistic competition, there are some differences between these two markets.

1. In monopoly there is a single seller and in monopolistic competition there are large number of sellers.
2. In monopoly, the firm may get abnormal profits in the short period as well as in the long period. But in the case monopolistic competition, the firm may get abnormal profits normal profits. In monopoly, there is no free entry of new firms and therefore, the monopoly firm may get abnormal profits in the short run as well as in the long run. In monopolistic competition there is a free entry and exit of new firms and therefore, the firms in the monopolistic competition can get only normal profits in the long run.
3. The absolute monopoly market is some what not a realistic one in practical life. The monopolistic competition is very nearer to practical and real life.

## 12.7 DUOPOLY:

Duo means two and poly means sellers. Therefore, duopoly refers to that type of market situation in which there are two sellers. There are two types of price determination under duopoly market - 1. Pricing under duopoly without product differentiation, 2. Pricing with product differentiation.

### 1. PRICING WITHOUT PRODUCT DIFFERENTIATION:

**A. COLLUSIVE PRICE:** when there are two sellers producing or selling identical products, there may be collusion between these two sellers. They may come to an agreement and divide the market between them and fix the price collectively. In such case it will be similar to that of monopoly market.

**B. INDEPENDENT PRICING:** There may be continuous price-war between the two sellers if there is no agreement between these two sellers. Each firm may try to drive out the other seller from the market by reducing the price. Some times the price may be lower than the average cost and it may lead to losses also.

**C. LONG RUN PRICE:** Under duopoly market if there is no product differentiation, the consumers do not have any special preference for any producer. So in the long run. The two producers may charge the same price. Therefore, these two sellers may earn only normal profits.

**COURNOT MODEL:** A model of Oligopoly, projecting duopoly was first put forth by Cournot, a French economist in 1838. This model is developed on the basis of certain assumption -

1. There are two sellers selling identical products.
2. There are large number of buyers.
3. The total output must be shared out.
4. The cost of production is assumed to be zero.
5. Each seller knows the demand curve of his product.
6. Each seller takes the supply & his rival to be constant and ignorant about his rival's plans of output.
7. Each seller wants to acquire maximum net revenue.

On the basis of above assumptions Cournot developed his model. Cournot model tells us that each producer will be supplying exactly equal quantities of output and the price charged will be the same.

**EDGEWORTH MODEL:** Edgeworth also developed his model on the basis of the same assumptions of Cournot - except one assumption. Edgeworth did not take the assumption of constant supply of rivals. He has taken the assumption of constant price of his rivals. There will not be any price stability under duopoly, according to Edgeworth. According to this model, the price changes continuously between competitive price and monopolistic price. According to Edgeworth duopoly situation is unstable and indeterminate equilibrium.

**CHAMBERLIN MODEL:** Prof. Chamberlin advocated a stable equilibrium model. He recognised the mutual interdependence of the two sellers. According to Chamberlin each seller is intelligent and recognises the importance of mutual agreement between the two sellers. This will lead to a state of stable monopoly equilibrium.

2. **PRICING WITH PRODUCT DIFFERENTIATION:** Under duopoly market, if there is product differentiation, each seller may act as monopoly and is having his own market. Like in monopoly each seller decides his price and output. The seller who sells the superior quality of product may earn abnormal profits when compared to the other seller.

## 12.8 OLIGOPOLY MARKET:

The term 'Oligopoly' is derived from two Greek words namely 'Oligoi' which means 'a few' and 'pollein' which means 'to sell'. Therefore, Oligopoly refers to that form of imperfect competition where there will be only few sellers producing either homogeneous products or products which are close substitutes. So Oligopoly market prevails when an industry is made up of a few firms producing either identical products or differentiated products. Oligopoly may also be referred as competition among the few.

**DEFINITIONS:**

According to Mc. Connel, "Oligopoly is a market situation in which number of firms in an industry is so small that each must consider the reaction of rivals in formulating its price policy".

In view of P.C. Dooley, "An Oligopoly is a market of only a few sellers offering wither homogeneous or differentiated products."

**12.9 FEATURES OF OLIGOPOLY:**

1. **INTERDEPENDENCE:** Existence of interdependence of firms in the main feature of Oligopoly market. The price and output decisions of one firm will effect the other firms.
2. **INDETERMINATE DEMAND CURVE:** In Oligopoly market no firm can forecast with fair degree of certainty about the nature and position of its demand curve. The firm can not make an estimation of sales of its products if it reduces its price.
3. **ELEMENT OF MONOPOLY:** Monopoly element may be prevailed in the Oligopoly market. In this market there are only few firms and each firm controls a large share of the market and therefore, we can find out the element of monopoly even in oligopoly to some extent.
4. **IMPORTANCE OF SELLING COSTS:** In Oligopoly market each firm employs various techniques of advertisements. Indeterminate demand leads to making of advertisements to make the average revenue curve more favourable.
5. **PRICE RIGIDITY:** In Oligopoly there is price rigidity. The price will be kept unchanged due to fear of retaliation and the price will tend to inflexible. Every firm knows the ultimate outcome of the price change and therefore no firm is willing to change its price. In order to avoid the retaliation among the consumers and to discourage the entry of new firms the existing firms want to maintain the stable price.

**12.10 PRICE DETERMINATION UNDER OLIGOPOLY:**

There are mainly three types of price determination under Oligopoly market -

- A. Independent Pricing
- B. Pricing under collusion
- C. Price leadership

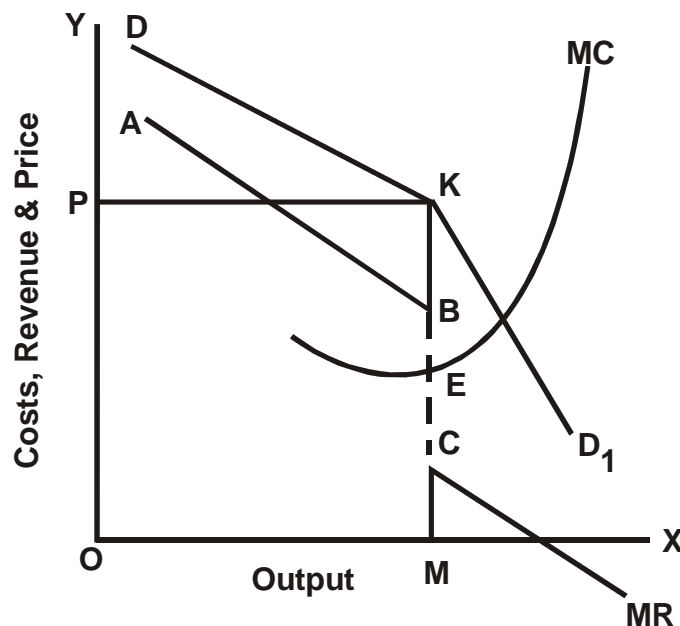
- A. INDEPENDENT PRICING:** In Oligopoly market, the firms may produce either identical products or products with close substitutes. If there is a product differentiation under Oligopoly each firm can act as a monopoly and fix the price independently. If these firms produce identical products, it is difficult to know the price determination in accurate manner. There may be heavy competition among these firms and finally they may fix the common reasonable price which can not be changed. But this policy of independent pricing can not withstand in the market.

**B. PRICING UNDER COLLUSION:** Most of the firms have the opinion that independent price determination leads to uncertainty. To avoid this defect there is a tendency among the oligopoly firms to act collectively by collusion. In this method these few firms may make 'cartel' arrangements. The firms may agree to share the market even though they are producing identical products. Generally the cartel determines the output produced by different firms and the price is also determined which is the most acceptable by all the firms.

**C. PRICE LEADERSHIP:** When the other firms follow the price which is determined by one firm in oligopoly then we can say that there is a price leadership. There are various ways of taking of leadership in price determination in oligopoly market. A dominant firm or the firm with low costs or a well established firm or a old firm may take the leadership and fixes the price. Generally the other firms will follow this price.

### 12.11 DIAGRAMMATIC EXPLANATION - KINKED DEMAND METHOD:

In Oligopoly the popular method with regard to price and output determination is the method of 'Kinked demand method'. This concept was introduced by Paul M. Sweezy. We can know the price and output determination with the help of following diagram.



In the diagram on X axis the output and Y axis the costs, revenue and price are determined. The demand curve  $DD_1$  has kink at point 'K'. It is the average revenue curve. The point 'K' divides the demand curve into two parts i.e.,  $DK$  and  $KD_1$ .  $DK$  part of demand curve is more



elastic one and  $KD_1$  part of demand curve is less elastic one. There is a price rigidity at point  $K$  because of several reasons. If particular firm rises its price, the other firms do not follow. Therefore, the demand for the particular product will be reduced on the other hand, if the particular firm cuts its price, its rivals will react and they will also reduce their prices. So, no firm has the desire to increase or decrease the price level. Therefore, there is a price rigidity in Oligopoly market. In the diagram the marginal revenue curve is discontinuous between B and C. Marginal cost is equal to marginal revenue at point E. Therefore, the output is determined as OM and the price as OP.

In imperfect competition, the monopolistic competition duopoly and oligopoly are the most important concepts. In monopolistic competition there are large number of firms and there is a product differentiation. In this market we can find out some features of perfect competition and some other features of monopoly. In duopoly there are only two sellers. In Oligopoly market there are only few sellers. Price rigidity is the main feature of oligopoly market. Monopolistic competition and oligopoly market situations are very nearer to the real life.

### 12.12 POINTS TO BE REMEMBER:

1. Monopolistic Competition is a midway of both perfect competition and monopoly.
2. Existence of large number of firms, product differentiation importance of selling costs are some of the main features of monopolistic competition.
3. Under monopolistic competition in the short run some firms may get abnormal profits, some others get normal profits and some firms may get even losses. But in the long run all firms get only normal profits.
4. There are some differences between perfect competition and monopolistic competition and monopoly and monopolistic competition.
5. In duopoly market there are two sellers. In this market prices are determined without product differentiation and with product differentiation.
6. Oligopoly market refers to that type of imperfect competition where there will be only few sellers producing either homogeneous products or products which are close substitutes.
7. Interdependence, price rigidity etc... are some of the features of Oligopoly market.
8. In Oligopoly market the popular method with regard to price and output determination is the method of 'Kinked demand method'.

### 12.13 IMPORTANT CONCEPTS:

1. **PRODUCT DIFFERENTIATION:** Product differentiation is the main feature of monopolistic competition. In this market the products are different but close substitutes.
2. **SELLING COSTS:** Generally the costs on advertisement are known as selling costs. Selling costs are useful for increase of the demand for the product.

3. **EXCESS CAPACITY:** In monopoly and monopolistic competition the output is not produced upto that level where the average cost is minimum. Therefore, the amount of output that is produced by the firm is less than the ideal output. This is called excess capacity.
4. **DUOPOLY:** 'Duo' means 'few' and 'poly' means 'sellers'. Therefore, duopoly is that type of market where there are only two sellers.
5. **OLIGOPOLY:** Oligopoly refers to that type of imperfect competition where there will be only few sellers producing either homogeneous products or differential products.
6. **PRICE RIGIDITY:** It is the main feature of Oligopoly market. The price will be kept unchanged due to fear of retaliation from rivals. Every firm knows the ultimate outcome of the price change and therefore, no firm is willing to change its price.
7. **KINKED DEMAND CURVE:** This concept was introduced by Paul M. Sweezy. We can find this Kinked demand curve in Oligopoly market. Kinked demand curve method represents the price rigidity.

## 12.14 MODEL QUESTIONS:

### I ESSAY QUESTIONS:

1. Explain the short run and long run equilibrium of the firm under monopolistic competition.
2. Write about the features and price determination under Oligopoly market.

### II SHORT ESSAY QUESTIONS:

1. Explain the features of Oligopoly.
2. Write about the features of monopolistic competition.
3. Write about the price determination with help of Kinked demand curve in Oligopoly market.

### III VERY SHORT QUESTIONS:

1. Duopoly Market
2. Product Differentiation
3. Kinked Demand Curve
4. Price Rigidity

**12.15 REFERENCE BOOKS:**

1. Stonier & Hague : A Text Book of Economic Theory
2. R.A. Bilas : Micro Economic Theory
3. M.L. Jhingon : Micro Economic Theory
4. K.K. Dewett : Modern Economic Theory
5. తెలుగు అకాడమి : అర్థశాస్త్ర సిద్ధాంతం
6. Centre for Distance Education : ఆర్థికశాస్త్రం - సిద్ధాంతము

## **Lesson : 13**

# **THEORIES OF DISTRIBUTION AND TRADE CYCLES**

## **DISTRIBUTION**

### **13.0 AIMS AND OBJECTIVES:**

How the factors of production earn income in the form of rent, wages, interest, and profits examined in detail in this chapter. After completion of this chapter you can understand :

- \* What is distribution and types of distribution
- \* Marginal Productivity theory of distribution.
- \* Modern Theory of distribution

### **CONTENTS:**

- 13.0 Aims and Objectives**
- 13.1 Introduction**
- 13.2 Distribution - Meaning**
- 13.3 Functional Distribution - Personal Distribution**
- 13.4 Theories of Distribution - Need**
  - 13.4.1 Marginal Productivity Theory of Distribution**
  - 13.4.2 Modern Theory of Distribution**
- 13.5 Conclusions**
- 13.6 Points to be Remembered**
- 13.7 Model Questions**
- 13.8 References**

### **13.1 INTRODUCTION:**

In ordinary speech, the term 'Distribution' refers to the marketing aspect of production, which includes the services of transport and trading agencies. But in economics, marketing and trading processes are treated as integral parts of production. The factors of production are conventionally

classified into land, labour, capital and organisation. and earn incomes in the form of rent, wages, interest and profits respectively. The theory of Distribution attempts to explain how a nation's income is distributed among these factors of production.

In this chapter, we examine the marginal productivity theory of distribution or factor pricing. In the subsequent chapters, we examine the theories relating to the rewards of each factor separately. Before we discuss the marginal productivity theory of distribution, we state the difference between functional distribution and personal distribution.

### **13.2 DISTRIBUTION - MEANING:**

It is worth mentioning here that in modern economic theory, theory of distribution is only a special case of the theory of price. As the price of products are explained with the interaction of the demand for and supply of them, similarly distribution is conceived as the determination of prices of the factors which are also explained with interaction of demand and supply of them. In fact, the factors are conceived merely as productive agents and distribution of income among them as merely functional rewards for their contribution to production. In other words, the contemporary theory of distribution merely explains functional distribution of income and not personal distribution of income.

Various economists remarks, "distribution appears an extension of the theory of value.... being just a problem of pricing of factors of production.

### **13.3 FUNCTIONAL DISTRIBUTION - PERSONAL DISTRIBUTION:**

In economics, the term 'distribution' has at least two connotations : (i) functional distribution, and (ii) personal distribution. Functional distribution refers to the distinct share of national income received by the people, as agents of production per unit of time, as reward for the unique functions rendered by them through their productive services. These shares are commonly described as wages, rent, interest and profits. Briefly, thus, functional distribution relates to the share of the factors of production in the form of rent, wages, interest and profits in the aggregate production. It is a macro concept.

Personal distribution, on the other hand, is a micro concept. It refers to a given amount of wealth and income received by individuals in society through their economic efforts. i.e., individual's personal earnings of income through various sources. The concept of equality and inequality of income distribution and social justice is basically concerned with the personal distribution of income. Taxation measures are designed to influence personal distribution of income and wealth in a community.

The theory of distribution deals with functional distribution and not with personal distribution of income. It seeks to explain the principles governing the determination of factor rewards - rent, wages, interest and profits - i.e., how prices of the factors of production are set. Needless to say, rent is the price of land. Wage is the price of labour. Interest is the price of capital, and profit the price of enterprise. The theory of distribution thus states how the product is functionally distributed among cooperating the factors in the process of production.

### 13.4 THEORIES OF DISTRIBUTION - NEED:

Now the question is: Why is a separate theory necessary to explain the pricing of services of factors of production? Can we not put the factor pricing into the general framework of theory of value? Although the theory of factor pricing incorporates the tools of demand and supply, there are fundamental differences between product pricing and factor pricing. The conditions that operate on the demand and supply sides of factors of production are different from those that operate in the case of commodities. We may note the following differences.

#### DEMAND SIDE:

The demand for commodities is a direct demand. They are demanded because they directly satisfy human wants. The demand for factors is derived from the demand for goods. Factors of production are demanded by business firms because of their productivity. Firms buy factor services from households and convert them into physical things. The commodities (or output) produced by factor services have to be valued in money. The commodities produced have to be sold in product markets. The demand for factors of production therefore depends on their revenue productivity, i.e., marginal productivity multiplied by price. The prices of commodities thus indirectly enter into the demand for factors prices. Further, the demand for factors of production is a joint demand.

#### SUPPLY SIDE:

There are fundamental differences between the supply of goods and supply of factors of production. The supply price of a commodity depends on its marginal cost of production. But we cannot speak of cost of production factors of production in the same way as we can speak of cost of production of commodities. Land is a gift of nature; it has no cost or production. Similarly we cannot speak of the cost production of labour as human beings are not produced on business considerations. Similar is the case with the other two factors, namely capital and enterprise. The supply conditions of the four factors are different. Further, in the case of commodities supply tends to increase with a rise in price and vice versa. The supply of a factor does not respond as easily or in the same way as the supply of commodities to price changes.

Because of these differences a separate theory for factor pricing has become necessary. Marshall justifies the need for a separate theory of distribution on the ground that "free human beings are not brought up to their work on the same principle as a machine, a horse, or a slave. If they were, there would be very little difference between the distribution and exchange side of value; for every agent of production would reap a return adequate to cover its own expenses of production with wear and tear, etc., at all events after allowance has been made for casual failures to adjust supply to demand". Not only human beings but also other factors of production are subject to peculiar conditions of supply.

Economists have attempted therefore to formulate a general theory of distribution known as the marginal productivity theory of distribution. The marginal productivity theory seeks to explain the determination of factor price. Economists did not stop there. Because supply conditions of factors differ from one another, they have also formulated separate theories to explain the remuneration paid to each of the factors of production. We have theories of rent, wages, interest and profits worked out separately.

### 13.4.1 MARGINAL PRODUCTIVITY THEORY OF DISTRIBUTION:

The theory was initially propounded as an explanation for the determination of wages (the reward for labour), but later on, it was generalised as a theory of factor-pricing for all the factors of production.

The Marginal Productivity Theory of Distribution has for long been honoured as the general theory of distribution. It is the neo-classical theory of distribution and is derived from Ricardo's "Marginal Principle". J.B. Clark, Marshall and Hicks are the main propounders of this theory.

According to this theory, an entrepreneur or a firm will employ a factor at a given price till its marginal productivity tends to be equal to its price. It follows that the reward (price) of a factor tends to be equal to its marginal productivity.

The gist of the marginal productivity theory may thus be reduced to the following propositions:

1. The marginal productivity of a factor determines its price.
2. In the long run, the price or reward of a factor tends to be equal to its marginal as well as average products.
3. When the reward of each factor in the economy tends to be equal to its marginal productivity, there is optimum allocation of resources (factors) to different uses.
4. When all factors receive their shares according to their respective marginal products, the total product will be exhausted.

The theory states that the price of a factor of production is governed by its marginal productivity. To support this hypothesis, it analyses the process of equilibrium pertaining to the employment of input of various factors by an individual firm under perfect competition. In a perfectly competitive factor market, a firm can buy any number of units of factors of production at the prevailing market price.

#### **ASSUMPTIONS OF THE THEORY:**

The marginal productivity theory of distribution is based on the following implicit and explicit assumptions:

1. There is perfect competition, both in the product and markets.
2. Technology remains constant. Hence, the technique of production remains the same through the scale and proportion of factors may change.
3. All units of a factor are perfectly homogeneous. This means, all units of a factor will receive the same price. The homogeneity of factor units also implies that they are perfectly substitutable for each other.
4. The firm is aiming at profit-maximisation, and so it seeks the most efficient allocation of resources.

5. The economy, as a whole, is operates at the full employment level.
6. There is perfect mobility of factors of factors of production.
7. The marginal productivity of an individual factor is measurable.
8. The bargaining powers for both the seller and the buyer of a factor of production will be equal.
9. The theory essentially considers long-run analysis in order to prove that the price of a factor will tend to be equal to both average and marginal productivity.
10. There will be laissez faire economy. Thus, there is no government intervention in the fixation of factor price such as minimum wage legislation, price control, etc.

#### **THE CONCEPTS OF PRODUCTIVITY:**

Productivity of a factor may be viewed in two senses: (i) physical productivity and (ii) revenue productivity. Physical productivity of a factor is measured in terms of physical units of output of a commodity produced by it, per unit of time. When physical productivity is expressed in terms of money, it is called revenue productivity. Again, physical productivity has two concepts : (i) average physical product, and (ii) marginal physical product.

#### **AVERAGE PHYSICAL PRODUCT:**

The average physical product or the average product of a factor is the total product divided by the number of units of the factor employed in the process of production. To put this in symbolic terms:

$$AP = \frac{TP}{Q}$$

#### **MARGINAL PHYSICAL PRODUCT:**

The Marginal Physical Product of a factor is the increase in total product resulting from the employment of an additional unit of that factor, other factors remaining constant. The marginal physical product or the marginal product of a particular factor is thus measured as  $MP = TP_Q - TP_{Q-1}$ .

The following are the technical concepts of revenue productivity:

- (i) The Average Revenue Product (ARP),
- (ii) The value of Marginal Physical Product (VMPP), and
- (iii) The Marginal Revenue Product (MRP).

#### **AVERAGE REVENUE PRODUCT:**

The average revenue product, or the average productivity of a factor, refers to the total revenue of output productivity by a factor divided by the total number of that factor employed. Thus,



$$ARP = \frac{TR}{Q}$$

Alternatively, the average revenue product, or the average productivity of a factor, can be obtained by multiplying the average physical product of the factor by the average revenue, or price, of the output. Thus :

$$\text{Average Revenue Productivity APP} \times P \text{ or APP} \times \text{ARC} (\because P = \text{AR})$$

#### **VALUE OF MARGINAL PHYSICAL PRODUCT:**

The Value of Marginal Physical Product (VMPP) is usually referred to as the marginal productivity of a factor, and is obtained by multiplying the marginal physical product of the factor by the price of output. Thus :

$$\text{Marginal productivity of VMPP} = \text{MPP} \times P$$

#### **MARGINAL REVENUE PRODUCT:**

The marginal revenue product (MRP) of a factor is the net addition to total revenue made by the employment of an additional unit of that factor, assuming other factors to be fixed under a given state of technology. Thus, marginal revenue product is obtained by multiplying the marginal revenue. To put it symbolically :

$$\text{MRP} = \text{MPP} \times \text{MR}$$

where, MRP indicates marginal revenue product, MPP stands for the marginal physical product, and MR stands for the marginal revenue.

Thus, there is a conceptual difference between marginal revenue product (MRP) and value of marginal physical product (VMPP). In the former, we consider marginal revenue to be multiplied by the MPP and in the latter, we take price to multiply it by the MPP. In perfectly competitive market conditions for the product, however,  $\text{MPP} = \text{VPP}$ . This is because, under perfect competition,  $\text{Price} = \text{MR}$ . But, if the commodity-market has imperfect competition, price or AR tends to be greater than the marginal revenue, then VMPP will be higher than MRP.

The measurement of these concepts has been illustrated by hypothetical data (relating to perfect competition) in Table 1. It may be recalled that output increases at an increasing rate than at a constant rate and ultimately at a diminishing rate. It thus follows that the marginal physical product increases initially with the use of every additional unit of a given factor of production, and at a point its rate remains the same and then it begins to decline.

It can be seen that marginal physical product tends to decline as we add more units of labour (or any other factor we take), because of the law of diminishing returns or the law of diminishing marginal physical product. This is true of all the factors of production, holding one factor variable and other constant.

The marginal physical product and average physical product, given in the table, can be illustrated in terms of a curve, keeping in view the usual marginal and average relationship, as in Fig. a.

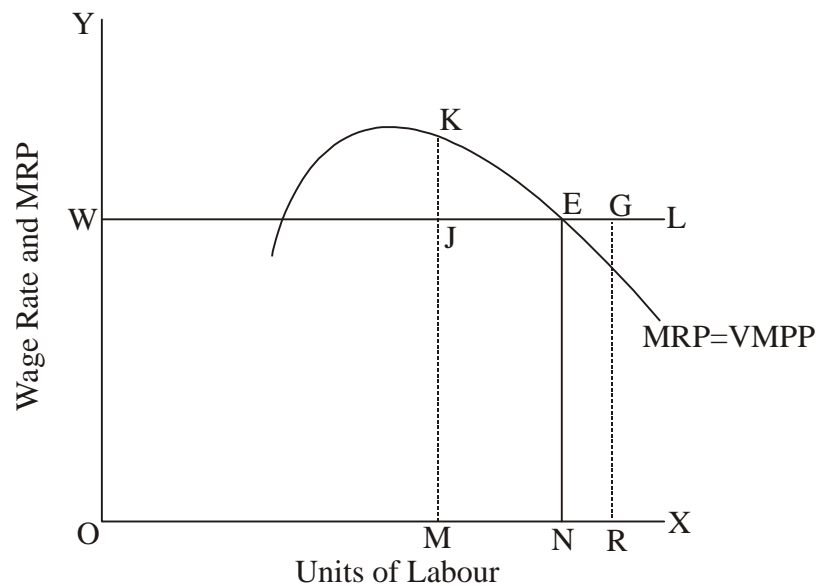
Table a

Units of Labour(n)	Total Product (TP) Units	Marginal Physical Product (MPP) Units	Average Physical Product (APP)TP/ n Units	Price (P) AR = MR Rs.	Total Revenue Product (TRP)= TPxP Rs.	Marginal Revenue Product (MRP)= MPP x MR Rs.	Average Revenue Product (ARP)= APP x P Rs.	Value of Marginal Product VMPP MPP x P Rs.
1	10	--	10	5	50	--	50	--
2	18	8	9	5	90	40	45	40
3	30	10	10	5	150	50	50	50
4	36	6	9	5	180	30	45	30
5	40	4	8	5	200	20	40	20
6	42	2	7	5	210	0	35	10
7	42	0	6	5	210	0	30	0

**EXPLANATION OF THE THEORY:**

In a perfectly competitive factor market, the forces of supply and demand determine the price of a factor production. The factor price is given and a firm can hire as many units of a factor as it requires at the prevailing price.

It is assumed that the amount of capital is fixed, and that the firm uses variable units of labour to produce the output. Marginal productivity for the firm, will decline as more and more workers are added to the fixed quantity of capital because of the application of the Law of Diminishing Returns. The firm will employ additional units of labour till the wage rate (i.e., factor price) is equal to the marginal revenue product (MRP). As long as the MRP is higher than the wage rate, it is profitable to employ more units of labour and expand output because the additional revenue, earned by employing an additional unit of labour, is higher than the wage rate and it adds to the profit. If the additional revenue is less than the wage rate, the profit will come down. Hence, the firm will stop production at that level of output where  $MRP = \text{Wage rate}$ . The level of output where  $MRP = \text{Wage rate}$  is the equilibrium level. Beyond this level, the wage rate is higher than the MRP and hence profits decline. No rational firm will expand its output when profits decline because its goal is to maximise profits.



**Fig. (a) Equilibrium under perfect competition in the factor market**

In the Fig. (a), units of labour are measured on X axis and wage rate and marginal revenue product (MRP) on the Y axis. Since wage rate is given under perfect competition, the former is a perfectly elastic curve and horizontal to the X axis. Since the wage rate is a horizontal curve, the average wage rate and the marginal wage rate are the same (the average wage rate coincides with the marginal wage rate). OW is the prevailing factor price of labour, that is the given wage rate.

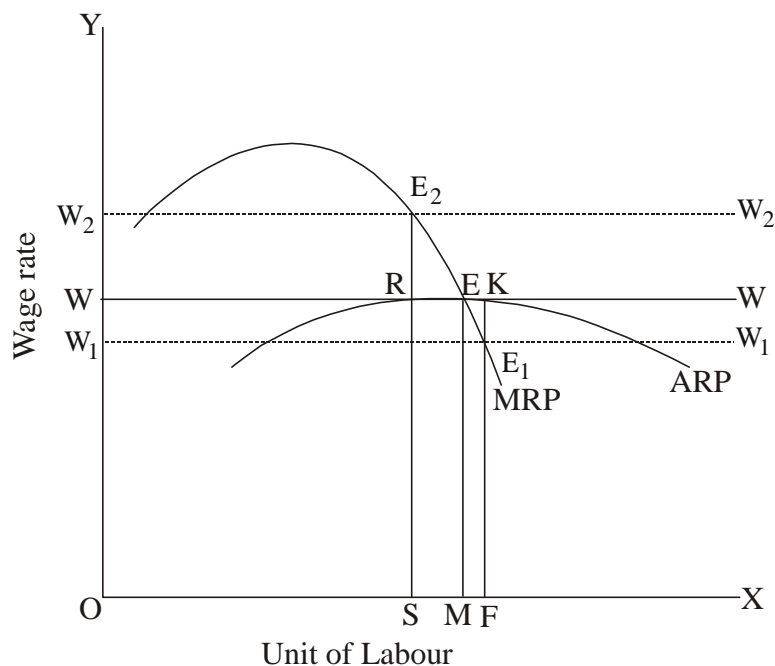
The MRP curve is firm's demand curve for labour and WD is the supply curve of labour. The MRP curve cuts the WD curve at point E from above when the MRP curve is sloping down. ON is the number of units of labour supplied. Under perfect competition, the price of the factor input (wage rate) and the price of the product are given and the individual firm has to take the given factor price and the given product price. It will only determine the number of workers to be employed to achieve equilibrium.

The firm will employ ON units of labour and maximise profits. If it employs OM units of labour, the firm is making profits but it can improve profitability since its MRP is greater than the factor price. If it employs OR units of labour, its profits decline since the factor price is higher than the MRP. Hence, it employs only ON units of labour to maximise profits. (Since the firm is functioning under perfectly competitive conditions,  $MRP = MPP \times MR$ . Since  $MR = AR$ , that is, Price of the product,  $MRP = MPP \times \text{Price}$ ).

From the above discussion, we understand that a rational firm will employ more and more units of labour at the prevailing wage rate till marginal revenue product of labour equals wage rate under perfectly competitive conditions.

### LONG-RUN EQUILIBRIUM UNDER PERFECT COMPETITION IN THE FACTOR MARKET:

In the Fig. (b), units of labour are taken on the X axis, wage rate, marginal revenue productivity (MRP) and average revenue productivity (ARP), are taken on the Y axis. It may be noted that at  $OW_1$  wage rate, the equilibrium will be at point  $E_1$  where the MRP cuts the wage line  $W_1W_1$  at point  $E_1$  from above. The firm makes supernormal profit  $E_1B$  as the ARP is higher than the wage rate by  $E_1B$  ( $KF$  minus  $E_1Q$ ). New firms will now enter the industry tempted by supernormal profits. The demand for labour will increase and the wage rate is pushed up to  $OW$ .  $WW$  is the new wage line. MRP curve cuts the wage line  $WW$  and also the ARP curve at its highest point, at point  $E$ . At  $WW$  wage line, MRP is also equal to ARP. The firm is in long-run equilibrium where wage rate = MRP = ARP. Notice that the firm does not earn any supernormal profits. With the entry of several firms in the industry, supernormal profits get completely eroded and each firm in the industry will now earn only normal profits.



**Fig. (b) The Long-run equilibrium under perfect competition in the factor market.**

In case the demand for Labour increases even more, the wage rate will be pushed up to  $OW_2$  and the MRP curve cuts the new wage line  $W_2W_2$  at point  $E_2$ . Here, the firm suffers losses as the ARP is lower than the wage rate by  $E_2A$ . Thus, firms suffering losses will have to quit and the demand for labour will decline pulling down the wage rate. The wage rate will come down to  $OW$  level and firms will earn only normal profits in the long run. Firms which fail to earn at least normal profits will quit the industry.

**CRITICISM OF THE THEORY:**

1. The theory assumes that the value of the marginal product of a factor is known to the entrepreneur. This is not always true. For example, a farmer does not know how large his crop will be, for that will depend on several circumstances; nor does he know what price per unit be. However, he must decide how many units of each factor to employ. He therefore relates price of factor to the expected value of its marginal product.
2. The theory assumes full employment. If some units of a factor are hired at a certain price while others remain unemployed, the latter will offer their service somewhat more cheaply. This will result in a fall in the price of a unit of that factor to the level at which all units of it find employment. Where there is considerable unemployment, an increased demand for the products of those industries will lead to fuller employment rather than higher wages. A wage reduction will reduce total expenditure with the disastrous consequence of fall in the volume of investment and employment. Wage cuts do not promote full employment; they lead to unemployment. The marginal productivity theory is micro-economic theory. It must be supplemented by a general theory of output and employment as that of Keynes.
3. There is considerable interval between inputs of factors and their output. An entrepreneur pays his factors months before his product is made and can be sold. He cannot, therefore, pay them the value of their marginal product, but only its discounted value-the present value of what he will receive when he sells the product.
4. The theory assumes that the price per unit of a factor will be the same in every use in which it is employed. This implies that there is sufficient mobility of factors to bring about this result. It ignores such factors like inertia and preference for a job. It may happen that some workers prefer to remain where they are rather than to move to where they can earn more.
5. The another criticism against the theory is that the product is the result of cooperative effort on the part of all factors; and it is impossible to separate the shares contributed by each. It may be replied that the marginal product is not solely due to the marginal unit of a factor. When the amount of one factors is increased appropriate additions must be made to other factors. The addition made to total product is called marginal gross product. If we deduct the expenditure incurred on other factors we get the marginal net revenue product. Factor prices become equal to marginal net revenue products.
6. Hobson criticised the theory on the ground that if a unit of a particular factor is withdrawn, the whole business will be so disorganised that the loss of production will be much more than the marginal product of the unit withdrawn. This criticism applies to entrepreneur as a factor of production. The criticism is valid when applied to small business and large units of factors.
7. The theory assumes perfect competition. Some critics say that this assumption makes this theory quite useless as an explanation of the real world where the general

rule is imperfect competition. Under monopoly prices are fixed above marginal costs (which are factor prices). The price of a factor will be therefore not equal to the value of its marginal product; the latter will be higher. The results of imperfect competition are explained separately.

8. One common criticism on theory is, it assumes that all units of a factor are homogeneous. When all units of a factor are not alike we cannot speak of marginal productivity of a factor in general.
9. A serious defect of the theory is that it takes the supply of factors as given. If it examines demand for factors. A theory which does not take into account both demand and supply forces in determining the price of a factor is incomplete. The supply of a factor cannot be taken as given, for it is very much influenced by the price paid for it. And a change in supply of a factor will affect its productivity. The theory therefore throws light on the factors that govern wages.

As Samuelson remarks, "It (marginal productivity theory) is not a theory that explains wages, rents or interests; on the contrary, it simply explains how factors of production are hired by the firm, once their prices are known."

#### 13.4.2 MODERN THEORY OF DISTRIBUTION:

We have seen that the marginal productivity theory of distribution is highly defective and unsatisfactory. It simply tells us how many units of a factor a particular firm will employ at a given price in order to maximise its profit. For example, it tells us how many workers a firm will employ at a given wage to maximize its profit. But it does not tell us how the wage itself is determined. Further, the marginal productivity theory approaches the problem of the determination of the reward of a factor from the side of demand only. It neglects the supply side altogether. It offers only one-sided explanation of the determination of factor prices. Hence, the theory is incomplete and inadequate.

The modern theory of distribution (also known as the supply and demand theory of distribution), on the contrary, provides a better and more satisfactory explanation of factor pricing than the marginal productivity theory. According to this theory, factor pricing is only a special case of the theory of price. Just as the price of a commodity is determined by its demand and supply, in the same manner, the price of a factor is also arrived at by the interaction of the forces of demand and supply.

The modern theory of distribution is based on certain assumptions. They are as follows:

- (i) There exists perfect competition in commodity and factor markets.
- (ii) The various units of a factor are homogeneous and perfect substitutes of each other.
- (iii) Each factor is perfectly divisible.
- (iv) The law of variable proportions operates in production.

We shall now proceed to analyse the theory in the light of above assumptions.

Let us now analyse the demand side. It should be remembered that the demand for a factor of production is a derived demand. It is derived from the demand for the products which that factor helps to produce. For example, land is not wanted for its own sake, but merely as a site where some form of production can be carried on. Like wise, labour too is not wanted for its own sake, but for the sake of the goods that it helps to produce. It follows, therefore, that if the demand for goods increases, the demand for the factors which help to produce these goods also increases.

We have seen above that the demand price of a factor depends upon the quantity demanded of the finished product. Higher the demand for the finished product, higher shall be the demand price of the factor in question. The demand price of a factor also depends on the price of the finished product in the production of which the factor is used. Higher the price of the finished product, greater shall be the demand price of the factor used in its production. Again, greater the productivity of the factor in question, higher shall be the demand price of a unit of it. These are some of the important points which should be in mind while analysing the demand for a particular factor of production.

As is well known, the demand curve of the industry for a particular factor of production is the sum-total of the demand curves of the various firms in that industry for that factor. By a similar process, we can obtain the demand curve of all the industries, taken together, for that particular factor of production.

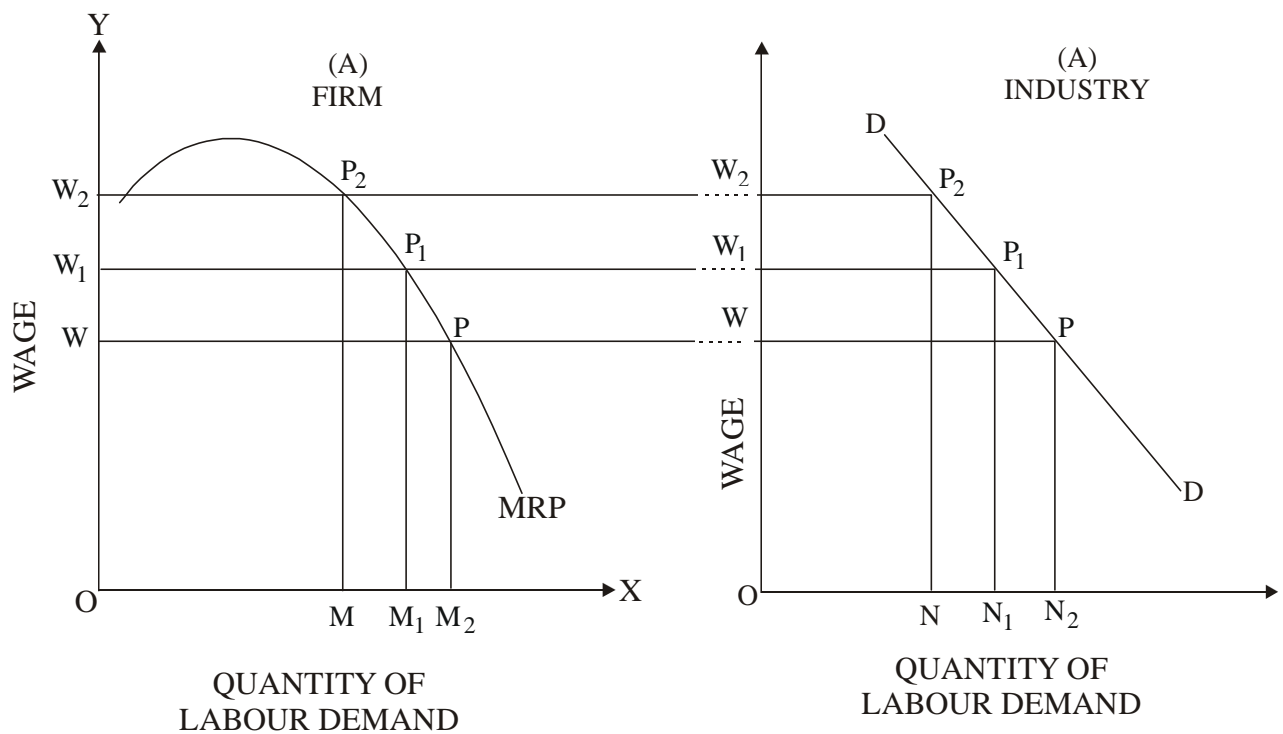
The demand of the firm for a factor depends on its marginal revenue productivity (MRP) and the quantity of the factor to be actually employed by that firm will depend upon the current price of that factor in the market. For example, a firm will employ more labour if wages are low and less labour if wages are high.

We shall now explain how the demand curve of an industry for a particular factor of production (say, labour) is constructed.

In the Diagram (a) aheadm we have represented the position of a firm regarding the employment of factor, say labour, when the wage is  $OW_2$ , the firm is in equilibrium at  $P_2$  and employs  $OW_2$ , the firm is in equilibrium at  $P_2$  and employs  $OM$  quantity of labour. The firm is in equilibrium at  $P_2$ , because at this point the current wage  $OW_2$  is equal to the marginal revenue productivity of labour. When the wage falls down to  $OW_1$ , the quantity of labour employed by the firm increases to  $OM_1$ . Similarly at  $OW$ , wage the quantity of labour employed by the firm further increases to  $OM_2$ . Thus, with a fall in the wage, the firm employs more labour; with a rise in the wage, it employs less labour.

It should, however, be remembered that it is not the demand of the individual firm for labour that determines the wage-level in the market. The wage-level in the market is determined by the total demand for labour. The total demand for labour in the industry is arrived at by the sum-total of the demands of all the firms in that industry. The total demand curve is derived by the lateral summation of the marginal revenue productivity curves of

all the firms. In Diagram (b), we have represented the industry demand curve for labour in the form of DD. The Y - axis in both the diagrams have been drawn to the same scale, but X-axes are drawn on different scales. Let us suppose that there are 100 firms in the industry. At  $OW_2$  wage, the demand of the individual firm for labour is  $OM$ , but the demand of the entire industry at this wage is  $ON$  which may be held equivalent to  $100 \times OM$ , because we have supposed that there are 100 firms in the industry. Likewise at  $OW_1$  wage, the demand of the firm is  $OM_1$ , but of the whole industry it is  $ON_1$ . At  $OW$  wage the demand of the firm is  $OM_2$ , while that of the industry is  $ON_2$  (which is equal to  $100 \times OM_2$ ).



A glance at the Diagram (b) reveals that the DD curve slopes downwards to the right. This is inevitable. As pointed out above, the DD curve represents the lateral summation of the MRP curves of all the firms in the industry. Since MRP curve of all the firms slopes downwards, the DD curve (which represents the sum-total of the MRP curves) has, by necessity, to slope downwards to the right. This means that lower the marginal revenue productivity of labour, the higher shall be the demand price of labour. Thus, on the demand side, the marginal revenue productivity of labour is the determinant of wage level. In general terms, the marginal revenue productivity of labour determines its reward on the demand side.

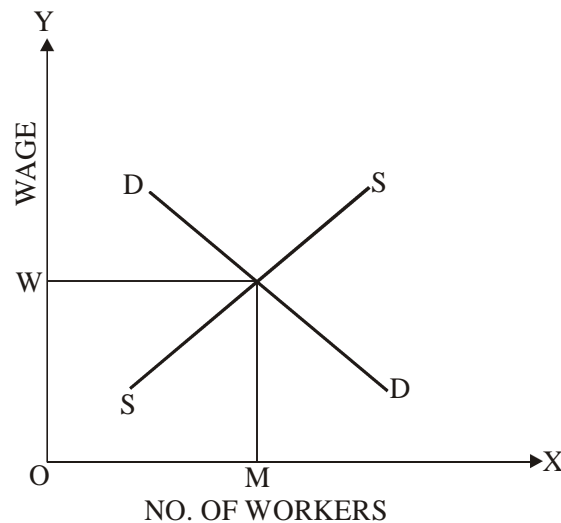


Let us now analyse the supply side. On the demand side, as we have seen above, there is similarity between commodity pricing and factor pricing. But, on the supply side, it is more difficult to carry the analogy of the commodity market into the factor market. If the price of a commodity increases, the supply of that commodity may increase in the market. This may not necessarily happen in the case of a factor production. A rise in the price of a factor may not necessarily call forth a larger supply in the market.

For example, a rise in rents will not increase the supply of land because the total supply of land (described as a gift of nature) is more or less fixed. Though the total supply of land is fixed, its supply for a particular purpose is not fixed. There are several competing uses of land. The offering of a high price of land for a particular use will increase the supply offered for that purpose.

In the same manner, a rise in the wage level may not increase the total supply of labour, but if the wages rise in a particular occupation, of industry, more labour may offer itself for employment there. Thus, higher the wage level in a particular occupation or industry, the greater will be the supply of labour in that occupation or industry. But the relationship between the wage-level and the supply of labour does not always hold good. It is not always true that higher the wage-level the more hours the workers are prepared to work. The marginal utility of leisure increases steeply as the working day lengthens. And if the work is unpleasant, the higher the wage per hour, the fewer the number of hours the workers may be willing to work. Absenteesim, as is well known, increases in many industries as the wage-rate increases. This results in what the economists call "the regressive supply curve". This curve slopes backward after a certain stage (see Diagram). This curve shows that after a certain point the higher wage calls forth a smaller supply of labour. Again, the supply of labour depends not merely on economic factors : several non-economic considerations also influence it. Despite all this, we can draw the curve representing the supply of labour. It will be a positively inclined curve, rising from the left to the right upwards. The curve indicates that higher the wage-level, the larger will be the supply of labour.

It, thus, becomes possible to construct supply and demand curves for factors of production. The intersection of the supply and demand curves for any factor of production, just as for any commodity, gives the equilibrium position at which the supply of the factor equals its demand. The point of intersection shows the amount of the factor demanded and supplied at the equilibrium price. We have shown here the demand and supply curves of a particular type of the labour. (See the Diagram). OW is the equilibrium wage. At this wage, the quantity demanded of labour is equal to the quantity supplied.



The effect of changes in supply and demand can be shown by inserting a second supply or demand curve. An increase in the demand for labour would result in more workers being employed and at a higher wage than before.

Thus, according to the modern theory of distribution the price of a factor of production is determined by the intersection of the forces of demand and supply relating to that factor of production. The supply relating to that factor of production. The supply and demand theory offers a more adequate and more satisfactory explanation of the problem of distribution than the marginal productivity theory itself.

Though the supply and demand theory of distribution is an improvement on the marginal productivity theory, yet it is not completely free from defects and shortcomings. The main criticism of this theory is that it is based on questionable assumptions. There is no such thing as perfect competition in the factor markets. The various units of a factor are not homogeneous. Nor is a factor of production perfectly divisible, as assumed by the theory.

### 13.5 CONCLUSIONS:

In this chapter we discussed that land, labour, capital and organisation are four factors of production and earns remunerations in the form of rent, wages, interest and capital.

### 13.6 POINTS TO BE REMEMBERED:

1. Owners of factors of production earn income in the form of rent, wages, interest and profits.
2. The distribution of national income among the factory of production of factor inputs is called as functional distribution.
3. Productivity is the amount of a good or service produced per unit of factor input.

4. We should pay the remuneration to a factor on the basis of its marginal productivity.
5. According to modern theory of distribution, the remuneration for a factor will be determined on the basis of demand and supply of that factor.

### 13.7 MODEL QUESTIONS:

#### ESSAY TYPE QUESTIONS:

1. Critically examine Marginal Productivity theory of distribution.
2. Explain Modern Theory of Distribution.

#### SHORT ANSWER QUESTIONS:

1. Personal Distribution
2. Functional Distribution
3. Importance of Distribution
4. M.P.P. and M.R.P.

### 13.8 REFERENCES:

- Stonier and Hague : A Text Book of Economic Theory  
J.S. Bain : Pricing, Employment and Distribution  
G.J. Stigler : Production and Distribution Theory  
K.K. Dewett : Advanced Economic Theory

## **Lesson : 14**

# **RENT**

### **14.0 AIMS AND OBJECTIVES:**

In this chapter we discussed various issues relating to the determination of rent to a land and the theories of Rent determination. You can understand the following after completion of this chapter.

- \* What is rent
- \* Difference between economic rent and contract rent
- \* Ricardian Rent Theory
- \* Modern Theory of Rent
- \* Quasi Rent

### **CONTENTS:**

- 14.0 Aims and Objectives**
- 14.1 Introduction**
- 14.2 The Meaning of Rent**
- 14.3 Ricardian Rent Theory**
- 14.4 Modern Theory of Rent**
- 14.5 Comparison Between The Ricardian Theory and The Modern Theory of Rent**
- 14.6 Quasi - Rent**
- 14.7 Summary**
- 14.8 Points to be remember**
- 14.9 Model Questions**
- 14.10 Suggested Readings**

### **14.1 INTRODUCTION:**

In the previous chapter, we have discussed that land, labour, capital and entrepreneurship are the factors of production or factor inputs that are used for producing goods and services. We have also discussed that rent, wages, interest and profits are factor payments made by firms to owners of factor inputs.

Rent is the factor payment made, or the price paid, for the use of land. The owner of the land obtains rent for leasing out his land to a firm. Before discussing further the various theories involved in the determination of rent, let us understand certain terms/concepts related to rent.

## 14.2 THE MEANING OF RENT:

Generally, the term 'Rent' refers to any periodic payment made for the use of any material good, for example, house rent, cycle rent etc. The term is also used to describe the payment made by the tenant cultivator to the landlord for the use of land. Such payments are called contract rent. The payment made by the cultivator to the landlord includes besides economic rent, interest on capital invested by the landlord.

The early economists have used the term rent to describe the surplus income derived from land and other free gifts of nature. Economic rent meant the surplus that remained to the cultivator after he had paid all expenses of production and had remunerated himself for his own productive effort. Suppose that an acre of land yields 20 bags of paddy and the expenses of cultivation plus the wages of cultivator come to 15 bags; there is a surplus of 5 bags, which may be called economic rent. Economic rent is thus surplus of income over expenses, or excess of crop over expenses.

Physiocrats felt that such surplus arises because of bountifulness of nature. Ricardo agreed that surplus or rent arises because of limited supply of equally fertile or equally accessible lands. In a sense it is the scarcity of land that gives rise to rent.

Marshall reserved the term rent for the income derived from land and other free gifts of nature. The supply of land and other free gifts of nature is limited from the society's point of view both in the short and long run. Since the supply is inelastic land derives surplus income whenever the demand for its products goes up. Marshall felt that such surplus income arises on man-made appliance whose supply is inelastic in the short period. He called it quasi-rent.

Modern economists like Mrs. John Robinson have identified the element of rent in the incomes of all factors of production. The term rent is now applied to payments made for factors of production whose supply is imperfectly elastic, with land as the main example. It is the surplus income which a factor of production earns over and above what is essential to maintain its supplies in the present use. In the words of Boulding, rent is "any payment to a unit of a factor or production in any industry in equilibrium, which is in excess of the minimum amount necessary to keep that factor in its present occupation". The minimum payment is what is called transfer price or opportunity price. It is the minimum price that should be paid to keep a factor in its present use rather than seek employment elsewhere. If a unit of factor earns anything more than transfer price, the excess earnings are called rent. The supply price of land is zero since it need not be paid anything in order to induce it to exist. The whole earnings of land are therefore regarded as rent. The conception of rent is therefore historically associated with the conception of free gifts of nature because free gifts of nature need not be paid anything in order to induce them to exist. The supply of other factors of production, though not inelastic, is less than perfectly elastic. If these factors earn anything more than their supply price the excess is regarded as rent.

### 14.3 RICARDIAN RENT THEORY:

In the early years of the nineteenth century, David Ricardo, presented a theory of rent in his '*Principles of Political Economy and Taxation*'. The Ricardian Theory of Rent enquires into and explores : (i) the nature of rent, and (ii) the laws governing the rise and fall of rent. However, Ricardo, did not explain determinants of rent. He was chiefly concerned with the distribution of wealth, in which rent occupied a central position. He developed the theory of rent as a corollary to his labour theory of value. It is also said that Ricardo developed this theory of rent as a differential surplus, as an attack on the landed aristocracy.

#### MAIN PROPOSITIONS OF THE RICARDIAN THEORY:

Ricardo's theory of rent contains several interrelated propositions, as follows :

##### 1. RENT IS THE RETURN FOR THE USE OF LAND:

Rent is the return made to the landlord for the use of land, Ricardo defined rent as "that portion of the produce of the earth which is paid to the landlord for the use of the original and indestructible power of the soil". Hence, to him, rent is paid by the tenant to the landlord for the use of natural productive properties of the soil. He, thus distinguished the payment made for the power of the soil from the payment made for improvements on land.

##### 2. RENT IS AN INDICATION OF THE NIGGARDLINESS OF NATURE:

'Ricardo viewed that high rents are not due to the bounty of nature but caused by the niggardliness of nature. What he implied is that it is the scarcity of land and the high prices of its produce that cause high rents.

According to Ricardo, land signifies the original and indestructible powers of the soil which makes its supply perfectly inelastic. Land, in this sense, being a naturally fixed factor, its supply does not vary when the rent varies. Thus, with the rising demand, land appears to be more and more scarce. This scarcity of land leads to higher and higher rents.

To Ricardo, the comparative scarcity of fertile land is the basic cause of the emergence of rent. He thus enunciated the principle of scarcity underlying the rent of land. He attributed rent to two basic factors, namely scarcity of fertility and uniform quality of land.

##### 3. RENT IS A RESIDUAL PRODUCT:

Rent is a surplus left over after other factors such as labour and capital have been paid as per the value of their marginal product.

##### 4. RENT IS A DIFFERENTIAL SURPLUS:

Ricardo viewed that rent is a 'differential surplus' earned by more fertile plots of land in comparison with the less fertile plots of land. When the demand for land produce rises, and prices increase, surplus over costs rises and rent tends to rise. However, he denied absolute rent and went on explaining the differential rent. Therefore theory of rent is also regarded as the theory of differential rent or differential surplus.

Under the assumptions of heterogeneity of land (i.e., lands differing in fertility), the law of diminishing returns, inelastic or fixed supply of land, rising demand for land produce due

to population growth, Ricardo advanced the theory that rent emerges on account of the differences in the quality of land. Qualitatively, some lands are more fertile, while others are less fertile. Superior and more fertile lands yield a surplus due to their differential advantages in production over inferior or less fertile ones. This producer's surplus of superior land Ricardo describes as rent. Hence, the more the fertility of the land, the higher is the rent yielded. The Ricardian theory may thus be called the "theory of differential advantage or differential theory of rent".

#### EXPLANATION OF THE TERMS:

To clarify the Ricardian differential theory of rent, let us take a hypothetical case study of a self-sufficient small village community. Let us assume that there are only four plots of land A, B, C and D labelled in order of their fertility, i.e., A is the most fertile land, B is inferior to A, C is inferior to B and D is the least fertile land. We may also assume that Rice is being cultivated on these plots. Again, these plots are of the same size; only their soil fertility varies. Moreover, the same doses of labour and capital are being applied on these plots. An extensive method of cultivation is used. Thus, to begin with, first A grade land is cultivated. When a community first settles on land, people will use only the best land i.e., grade A land. To the extent grade A land is abundant in supply, there will be no rent, as nobody would pay for the use of land when its supply is abundant. Say, if the demand for Rice is only upto 100 quintals, cultivation of land A is sufficient and there is no rent. But, with the growth of population, as the demand for food increases, say up to 170 quintals, the scarcity of land A is felt, and inferior land B will be brought under cultivation. Now, when the cost of cultivation of land A and B is the same, because the same amount of labour and capital is applied, yet land A will yield 100 quintals of Rice, while land B yields only 70 quintals. This means that land A realises a surplus of 30 quintals over the yield of land B. It is a producer's surplus or it is a rent which can be claimed by the owner of the land, i.e. it is a surplus of superior land over inferior land. If, however, the demand for food increases still further to say, 220 quintals, land C will have to be brought under cultivation. It yields, with the same amount of capital and labour, say, 50 quintals of Rice. Then, as compared to land C, land B yields a surplus of 20 quintals of Rice, which will be claimed by their respective owners. When population continues to grow and demand for Rice increases, it becomes necessary in due course to cultivate land of still poorer quality, i.e. D grade land. When land D is brought under cultivation with the same amount of labour and capital, it may yield 30 quintals of Rice. Now land A yields a surplus of 70 quintals of Rice, B yields 40 quintals and land C also now yields 20 quintals. Thus, land C, which did not get any rent previously, also earns rent when an inferior quality of land is brought under cultivation.

We may also express the same thing in terms of money by calculating the price of labour and capital and the price of wheat. Here, we consider rent as the surplus over cost of production. Suppose the price of a given amount of labour and capital is Rs. 6,000. Now the price of wheat in a perfectly competitive market is such that total revenue equals total cost of marginal land. Thus, marginal land must fetch a total revenue of Rs. 6,000 and, for this, the market price has to be Rs. 200 per quintal of Rice. Thus, rent yields of different land would be as shown in Table 1.

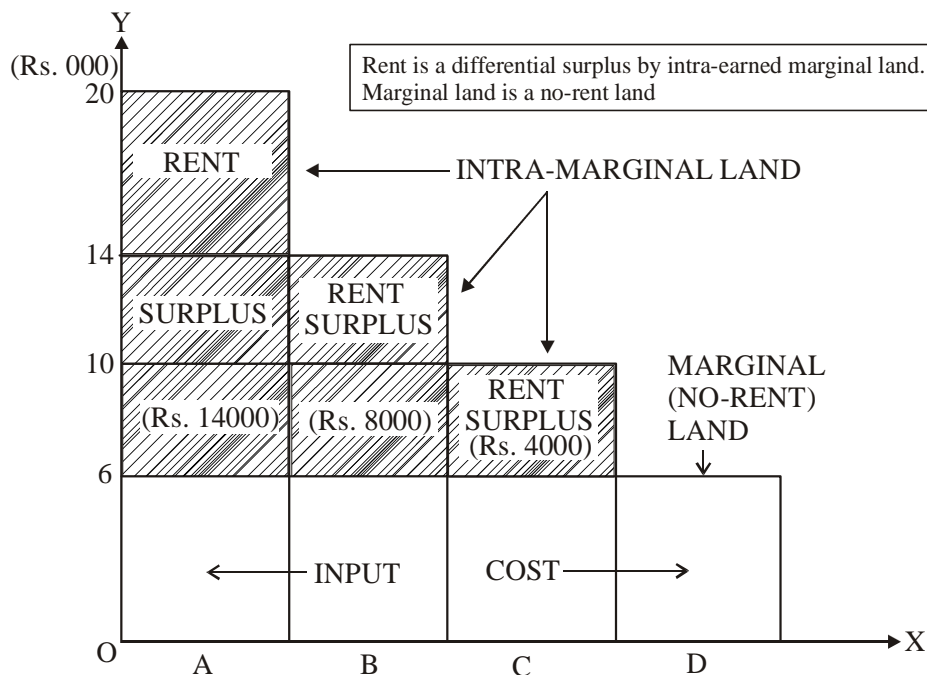
**Table 1**  
**DIFFERENTIAL RENT**

Land	$P \times Q = TR$	$TR - TC = \text{Rent}$
A	$200 \times 100 = 20,000$	$20,000 - 6,000 = 14,000$
B	$200 \times 70 = 14,000$	$14,000 - 6,000 = 8,000$
C	$200 \times 50 = 10,000$	$10,000 - 6,000 = 4,000$
D	$200 \times 30 = 6,000$	$6,000 - 6,000 = \text{Nil}$

In short, the gist of the Ricardian theory is that the more fertile land yields more and more rent as more and more of less fertile land is brought under cultivation. As Ricardo says, "With every step of rise in the population, which shall oblige a country to have recourse to land of a worse quality, to enable it to raise its supply of food, rent on all the more fertile land will rise."

Ricardo describes superior or more fertile land as intra-marginal or super-marginal land, while the last category of less fertile land as marginal land. Marginal land is so called because it provides just the revenue to cover its cost of cultivation. Eventually, when even more inferior land is brought into cultivation, it is regarded as marginal land and the previous marginal land now becomes super-marginal land. Marginal land is no-rent land. Super-marginal land earns rent equal to the difference of its surplus yield over the yield of marginal land. Thus :

Differential Rent or Surplus = Yields of super - marginal land - Yield of marginal land.



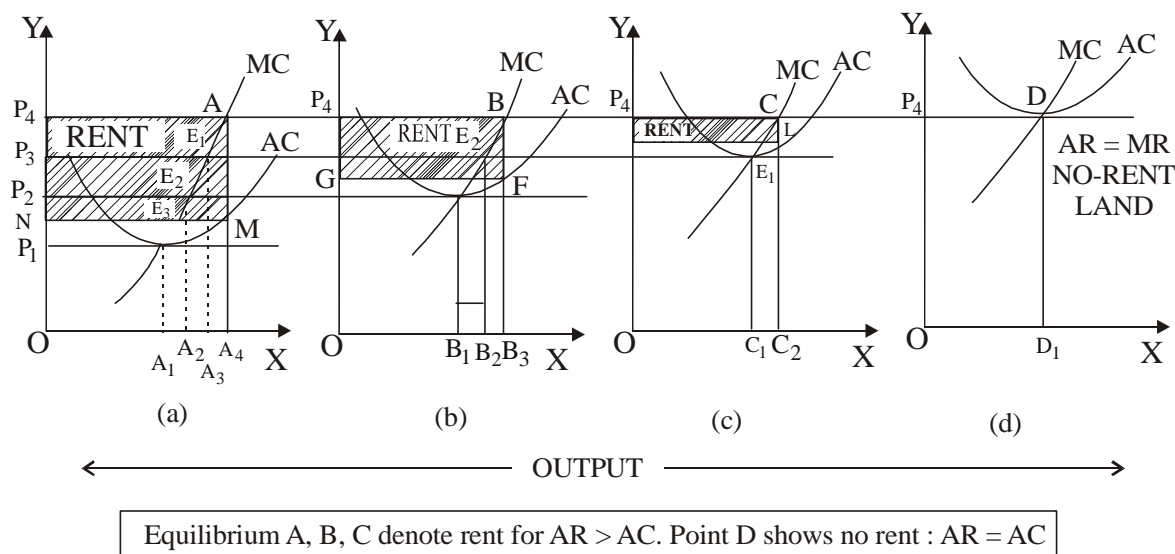
**Fig. 1 Differential Rent**



**DIAGRAMMATICAL PRESENTATION:**

Considering the arithmetical illustration of Table 1, the differential rent of different lands may diagrammatically be represented as in Fig. 1.

Another way of graphical presentation of differential rent is through a competitive market model of the equilibrium of the different forms, with different qualities of land, as shown in Fig. 2.



**Fig. 2 Differential Rent : Ricardian Theory**

In Fig. 2 Panel (a) represents the average and marginal cost curves of the most fertile land A, Panel (b) represents those of land grade B, Panel (c) represents those of land grade C and the average and marginal cost curves of grade D land are plotted in Panel (d). To begin with, when only land A is cultivated, initially  $OP_1$  is the market price and  $E_1$  is the equilibrium point at which  $MC = MR$ .  $OA_1$  is the equilibrium output produced. Land A at this stage does not earn any rent, as there is no surplus. Rent, is defined as differential rent, which is a surplus revenue over cost. With the increase in demand for land produce, its price rises, to  $OP_2$ . Now, land A will be intensively cultivated. Moreover, the less fertile grade B land will also be brought into cultivation to meet the increased demand. Land B will not be cultivated until the price is at least  $OP_2$  so that price = average cost and  $E_1$  is the equilibrium point. Hence,  $OB_1$  is the amount produced by land B, whereas, for land A the equilibrium point shifts to  $E_2$  so it produces  $OA_2$  quantity of output. Since  $AR > AC$  for this output level, land A realises a surplus. This surplus, according to Ricardo, is claimed as rent by the landlord.

Again, when the demand for food or any such land produce increases further, the price tends to rise. Let price be  $OP_3$  now. Land A will be more intensively cultivated so that  $OA_3$  equilibrium output is produced. The price or average revenue being much above the average cost,

a large surplus is realised in the case of land A, so it yields more rent than before. With a rise in the price, land B is also intensively cultivated. Consequently  $OB_2$  is the equilibrium output, at which  $AR > AC$ ; so there is a surplus which yields  $OP_3$  price, sufficient for the economic operation of the relatively inferior land C. Hence, there is also extensive cultivation to meet the increased demand for the land produce. Land C is therefore, brought under cultivation, but it does not yield any rent at this stage. It is regarded as no rent or marginal rent land. If we assume a further increase in demand for the land produce, the price will tend to rise. If price goes up, say to  $OP_4$ , it is economically viable to bring still inferior grade land D into extensive cultivation. Lands A, B and C will then be more intensively used to increase the supply, but on account of diminishing returns, their output cannot be sufficiently increased; so the use of land D and extensive cultivation becomes inevitable. Land D produces. It has no surplus, so it yields no rent and it is also regarded as marginal land. Land A will now earn the highest rent, land B will earn less rent than that of A but more than that of C and land D will earn the least rent. Land C, which was marginal would become intra-marginal land when land D is brought under cultivation. The shaded rectangles show the surplus of revenue over cost, i.e., rent in the case of intra-marginal lands. For land A, the rent area is  $OP_4AMN$ , for land B, the rent area is  $OP_4BFG$  and land for C, the rent area is  $OP_4CLT$ . Land D is no rent land.

Ricardo's contention that rent does not enter price follows his very conception of rent. His definition of rent as a differential surplus of gross revenue over cost, makes it obvious that rent is not treated as an element of cost. Since price is based on average cost, excluding rent, it is obvious that rent is not treated as an element of cost. Since price is based on average cost which does not include rent, it is obvious that rent is not treated as an element of cost. Since price is based on average cost which does not include rent, it is obvious that rent is price determining. From fig. 2, when we see the emergence of rent as assumed by Ricardo, it appears that when the price rises, rent also rises subsequently for the intra-marginal lands. Thus, it is the rise in the price of land produce which causes the rent to rise. Hence rent is price-determined and not price-determining.

#### **ASSUMPTIONS OF THE THEORY:**

The Ricardian theory of rent is based on the following assumptions:

1. Land contains the original and indestructible powers of the soil. Ricardo, thus, identified land with agricultural land.
2. Land is a free gift of nature. It has no supply price i.e., it has no social or opportunity cost for its emergence.
3. The supply of land is fixed and perfectly inelastic.
4. The demand for land is a derived demand depending on the growing need for food with the increasing population. As there is no consideration for the cost of production, demand becomes the sole determining factor of rent - as a price payable for the use of the nature productive capacity of land.
5. The technique of production is given and unchanged.

6. There is perfect competition in the use of land, as well as in the market for land produce.
7. Land is subject to the law of diminishing returns. Ricardo attributes the emergence of rent as a differential surplus to the operation of the law of diminishing returns. He writes, rent arises "in consequence of the diminished returns obtained by those who employ fresh labour and stock on the less fertile land".
8. Ricardo also assumes the Malthusian Law of Population, i.e., population growth exceeding the food supply over a period of time.
9. Land is a heterogeneous factor of production, that is, land is non-uniform in quality. The "original and indestructible powers of the soil" vary a great deal from land to land. Land differs in quality and productivity. Thus, there are different grades of land. To quote Ricardo, "It is only then because land is of different qualities with respect to its productive powers and because in the progress of population land of an inferior quality or less advantageously situated is called into cultivation, that rent is ever paid for the use of it."
10. Ricardo assumed specificity in the use of land by aggregating all uses. Thereby he implied that there are no alternative uses of land, hence, it has zero opportunity cost or transfer earnings (to use modern terminology).

#### **IMPLICATIONS AND SIGNIFICANCE OF RICARDO'S DIFFERENTIAL RENT THEORY:**

Ricardo's differential rent theory has the following implications:

1. It denies absolute rent.
2. It explains the existence of rent in certain conditions and its absence in others. It mentions that the marginal land earns no rent.
3. It explain differences in the amount of rent yielded by different qualities of land.
4. It stresses that rent is determined entirely by demand.
5. It implies the notion of a surplus and of an unearned increment. The theory has thus the advantage of enabling Ricardo to inveigh strongly against the landed interests.
6. It eliminated the element of rent from the determination of value. Ricardo stressed that rent is price-determined and not price-determining.

#### **CRITICISMS:**

However, the theory was widely criticised by various economists as the following:

1. Ricardo's contention that rent is a return for the use of original and indestructible powers of the soil is subjected to criticism. There is the difficulty of deciding which powers of the land are original and which are not. Much of land in its present form is man-made. What land is today depends not only on what nature has given to it but also what people have done for it. The concept of the original powers of land is nebulous. It has been argued that there is no such thing like indestructible powers of land. In so far as certain elements of fertility are concerned the power of land is liable to be destroyed. In these days of atomic energy, it is difficult to assert anything as indestructible.

It seems reasonable to attribute the payment of rent not to the original and indestructible powers but to the fact that land is almost inelastic in supply to changes in its price. It is therefore much more satisfactory to explain the phenomenon of rent in terms of a payment to factors of production with less than perfectly elastic supply. The concept of original and indestructible powers must be interpreted as to mean inelastic supply.

2. Criticism is levelled against Ricardo's assertion that rent is a price-determined surplus. When rent is considered from the point of view of society as a whole, the statement that rent is a surplus can be justified. The supply of land does not involve any real cost of production. The whole earnings of land may be regarded as a payment for a free gift of nature'. Being a free gift, land is not reproducible. It need not be paid anything in order to induce it to exist. Hence the supply price or transfer price of land is zero. The whole earnings of land are treated as rent. Ricardo was justified in arriving at such a conclusion because he was considering land from the point of view of the society as a whole and in its general use. He did not take into account the various uses to which land can be put. He was always taking of corn and not of any particular crop like wheat, maize or rice.
3. It may be pointed out that there is an element of rent in the incomes other factors of production as well. Rent arises whenever the supply of any factor of production is relatively inelastic in relation to demand for it during any given period. During short periods the supply of man-made appliance and other factors show the same tendency. Consequently, different units of these factors of production experience situations in which they enjoy a kind of surplus income which is akin to rent of land. Marshall, though brought up in classical tradition, admitted that factors like capital and labour enjoy this kind of surplus income. He titles such surplus income not as rent proper but as quasi-rent. According to the modern view, any excess income earned by a factor of production over and above its transfer price is rent.
4. The order of cultivation described by Ricardo has been criticised as being defective. According to Ricardo, the most fertile lands will be first cultivated. Carvey and Roscher have pointed out that history does not confirm this view. The first settlers in a country undertake the cultivation of lands which are favourably situated. These lands may not be superior in fertility; they are only the most easily accessible. Walker replied to this criticism by saying that by the best land Ricardo meant not the most fertile land but that which was the best from the point of view of fertility and situation.
5. According to Ricardo, rent arises on account of differential natural advantages of superior lands over the inferior ones. But, even if all lands are of same fertility, rent would still emerge due to the operation of diminishing returns, when land is intensively cultivated. Marshall admits that scarcity without inequalities intensively cultivated. Ricardo's theory ignores scarcity rent which is typical of all situations.
6. Ricardo's theory assumed that no rent land exists; that some land will only just repay expenses of cultivation, leaving no surplus. This part of the theory has been criticised a little unjustly.

Fundamentally, all that the Ricardian theory of rent amounts is the truism that the better land will be worth more than a less fertile one simply because they are different things. The same truism applies to wages. Economists like Wicksteed hold that a special theory of land rent is unnecessary and that a single theory must explain the rewards of all the factors of production.

#### **14.4 MODERN THEORY OF RENT:**

The Ricardian notion of 'Rent' has been closely associated with the conception of free gifts of nature with particular emphasis on land. One acquires the impression that rent is a special feature of land only; In recent times the conception of rent is extended and applied to other factors of production. Modern economists question the validity of confining rent to land alone when differences in the degrees of productivity are equally evident in the case of factors of production other than land. For example, the productive capacity of one worker may be superior to another so that there is a possibility of the former enjoying a supplementary gain of the nature of pure differential surplus akin to land rent. Skills and capacities differ not only among workers but also among the entrepreneurs. Differences in ability play an important role in the differential incomes they earn. According to Marshall, "The extra gains which any producer or dealer obtains through superior talents for business or superior business arrangements are very much of a kind similar to rent."

Francis A. Walker, an American economist, explained profit as the rent of ability. Entrepreneurs differ from each other in their abilities in just the same ways as do the different pieces of land in fertility. Walker has developed rent theory of profits and tried to demonstrate that superior entrepreneurs earn profits just as superior grades of land earn rent. He has introduced the concept of no profit entrepreneur similar to the concept of no-rent land. Thus, differential incomes that accrue to various factors of production are in no way different from differential incomes earned from land.

Marshall holding the same view remarked that in passing from the free gifts of nature through the more permanent improvements, to farm and factory buildings, to steam engine. etc. and finally to the less durable and less slowly made implements we find a continuous series of rent. Marshall has introduced the concept of quasi-rent to describe the abnormal incomes earned by man-made appliances during short periods when their supply is fixed. Marshall laid emphasis on the need to treat rent not as something separately, and exclusively applicable to land but as the normal result of the regular operation of the law of value. One fundamental factor that leads to the emergence of rent is the relative inelasticity of supply of factors of production in relation to their demand during and given period of time. Modern theories of rent hinge on the supply conditions of factors of production.

#### **TRANSFER EARNINGS AND RENT:**

Mrs. John Robinson had given a clear exposition of the modern theory of rent. The conception of rent is the 'conception of a surplus earned by a particular factor of production over and above the minimum earnings necessary to induce it to do work'. Whenever any unit of a factor of production is receiving a greater income than the minimum amount necessary to induce that factor to remain in its present occupation, the surplus of receipts over its minimum supply price may be called economic rent. The minimum earnings necessary to induce a unit of factor to remain in its present use rather than seek employment elsewhere is called transfer price or opportunity price. Rent may therefore be defined from the point of view of any industry more accurately as a payment in excess of its transfer earnings.

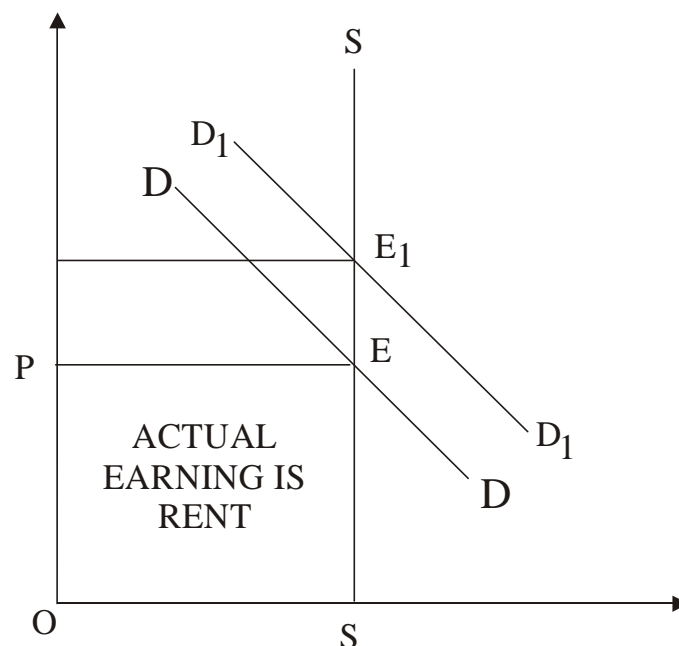
$$\text{Rent} = \text{Actual earning} - \text{Transfer earnings}$$

$$= \text{Market price of a factor} - \text{Supply price}$$

Suppose that an acre of land is earning an income of Rs. 1000 from the production of wheat. Assume that the same acre can earn Rs. 800, when it is used for growing sugarcane. The transfer price or earning of an acre is Rs. 800. Its actual earnings are Rs. 1000 when used for wheat production. There are surplus earnings of Rs. 200. This surplus over transfer price is called rent. Similarly, if some workers in an industry would be willing to work for Rs. 10 a day, but the demand for the product is such that it is necessary to induce other workers in to the industry who will not work for less than Rs. 15 a day. The first batch of workers (who now receive Rs. 15 also) will be receiving a rent of Rs. 5 a day the difference between what they would have been willing to work for and the amount they can actually get because of greater demand for their services.

Rent arises only when the supply of a factor of production is less than perfectly elastic. Let us explain the emergence of rent when the supply of a factor is (i) Perfectly inelastic, (ii) Perfectly elastic, and (iii) Less than perfectly elastic.

- 1. PERFECTLY INELASTIC SUPPLY:** If the supply of a factor is perfectly inelastic, its supply price is zero. When the demand for the products of that factor increases, its supply cannot be increased. Then the whole earnings of that factor are rent. This is explained with the help of figure.



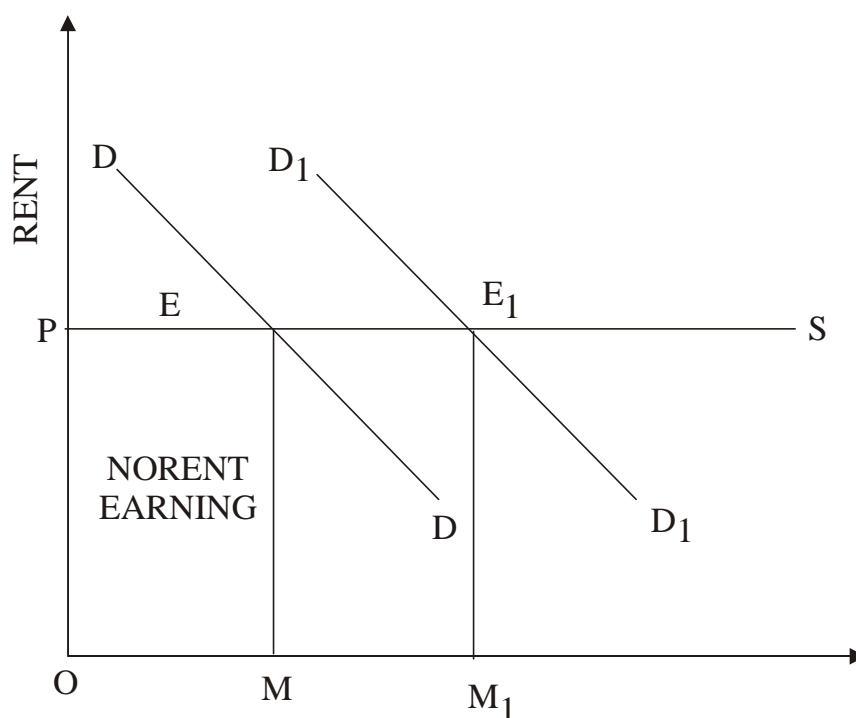
DEMAND AND SUPPLY OF LAND

In the figure, SM is the supply curve of the factor in question. Its supply OM is fixed. Hence the supply curve is perfectly inelastic. If the demand curve is DD, it intersects the supply curve at point E. The price is OP. Since the supply price of the factor is zero, the whole earnings (OPEM) are rent.

When the demand curve shifts upward to  $D_1D_1$  the price increases to  $OP_1$ . Now rent increases. It becomes  $OP_1E_1M$ .

Thus, if the supply of any factor is perfectly inelastic the whole earnings are treated as rent. Ricardo considered land from the point of view of the society as a whole. In his model, land can be put to only use, that is growing of corn. Then the supply curve of land is perfectly inelastic. The whole earnings of land can be regarded as rent. That is why the conception of rent is both verbally and historically associated with the conceptions of free gifts of nature. The free gifts of nature (including land) are there and they need not be paid anything to induce them to exist. Their supply price is therefore zero. Marshall opined that, "If the supply of any factor of production is limited and incapable of much increase by man's effort in any given period of time, then the income to be derived from it is to be regarded as of the nature of rent".

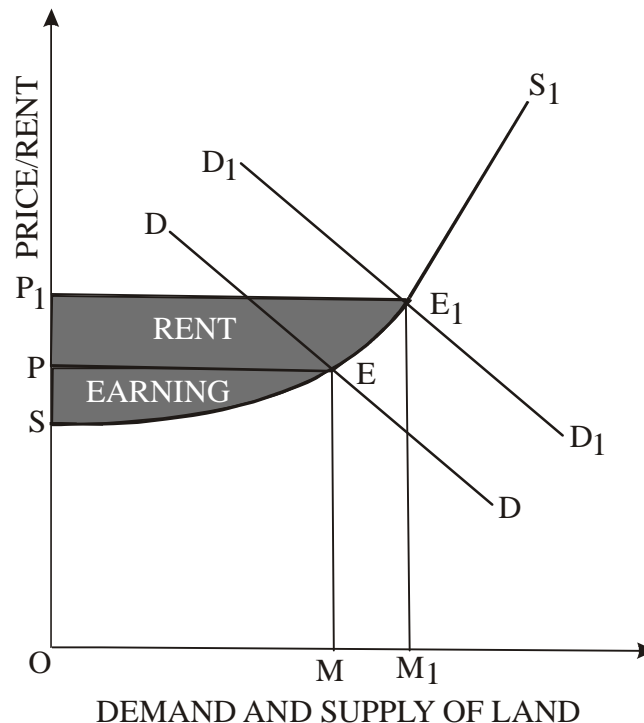
2. **PERFECTLY ELASTIC SUPPLY:** If the supply of land or any other factor of production is perfectly elastic, it is quite obvious that the factor will not earn rent. If supply is perfectly elastic, we can get any amount of that factor at the given price of it. Its market price is equal to its transfer price. So no rent will accrue. This is shown in Fig.



PS is the supply curve which is perfectly elastic. At OP price, any amount of the factor is forthcoming. If the demand curve is DD, OM units of that factor will be employed. If demand curve shifts upward to  $D_1D_1$ ,  $OM_1$  quantity of the factor is employed at OP price. The factor cannot earn any surplus income. The supply of a factor may at times be elastic to a particular industry.

3. **LESS THAN PERFECTLY ELASTIC SUPPLY:** Normally the supply of any factor to any particular use is less than perfectly elastic. This is because factors of competition can be put to different uses and demanded by different industries. When the supply of a factor is less than perfectly elastic, the units of the factor which have the lowest supply price will be used first. So long as only these units are used, there can be no rent. As soon as demand increases as to call forth the employment of high price units of the factor, rent will arise on those units of the factor whose supply price is lower since in a competitive market all units are paid alike. Rent is thus the difference between market price and supply price of a factor of production.

This can be illustrated with the help of figure.



The supply curve  $SS$  has a positive slope and explains that the additional units of the factor can be obtained only at higher prices. Suppose that the demand curve is  $DD$ . It intersects the supply curve at point  $E$ . The market price becomes  $OP$ . The number of factor units (land) employed is  $OM$ . At this stage surplus earnings (rent) are  $SPE$ . If the demand curve shifts upward to  $D_1D_1$  it intersects the supply curve at point  $E_1$ . The price of a unit of factor will rise to  $OP_1$ . Now the surplus earnings are  $SP_1E_1$ . The difference between actual earnings (market price) and transfer earnings is rent. This is shown by the shaded area. The explanation is applicable to all factors of production. As a matter of fact, the supply of any factor to a particular use is less than perfectly elastic. Hence any factor can earn rent if the market price exceeds its transfer price.



## 14.5 COMPARISON BETWEEN THE RICARDIAN THEORY AND THE MODERN THEORY OF RENT:

Now that we have studied the two main theories of rent, viz., the Ricardian theory (or the classical theory) and the modern theory of rent, we should be in a position to distinguish between the two.

We can see that both theories regard rent as a surplus. In Ricardo's theory the surplus is due to superiority (or natural differential advantage) of the land in question over the marginal one. The superiority may be due to either quality of the land or better situation. Also both theories of rent have the same concept of land, i.e. a natural factor rather than a man-made factor like capital, but then where is the difference between the two theories ?

The difference between two is basic and it lies in this that while Ricardo takes agricultural land (the cultivation of which is subject to the law of diminishing returns sooner or later, the modern economists, on the other hand, do not confine the concept of rent to agricultural land only. As we have said earlier, rent can arise in the sense of surplus in the case of other factors of production also and even in a situation of increasing returns. Rent represents the opportunity cost or transfer earnings. In this sense, rent is of a more general nature applicable to all factors. That is why it is said, "It (land rent) is a leading specie of large genus". That is, land rent is not a separate class by itself. It is only a prominent example of its type.

## 14.6 QUASI - RENT:

Alfred Marshall introduced the concept of quasi-rent. According to him, quasi-rent is the surplus earned by the factors of production other than land. Quasi-rent arises in the case of machines and other man-made appliances and certain kinds of labour. It arises in the short period during which time it is not possible to increase their supply. For example, take the case of software engineers during late eighties and early nineties. The demand for software engineers was very high but it was not possible to immediately increase their supply. As a result, they used to enjoy abnormally high salaries. If the normal salary for an engineer was Rs. 1,50,000 per annum, software engineers were offered remunerations of over Rs. 3,00,000 per annum. This abnormal increase in their wages in Marshallian terminology may be called quasi-rent. The quasi-rent in the example is Rs. 1,80,000 (Rs. 1,20,000 - Rs. 1,50,000) which may accrue only in the short period till supply catches up or demand comes down or both happen. It is only a short-period concept.

In the long run, it is possible to increase the supply of software skills unlike the supply of land. Likewise, any other inputs such as buildings and machinery may be in short supply in the short period and they may earn quasi-rent. For example, during World War II, there was an acute shortage of ships. It takes several years to build a ship. Therefore, the existing ships found abnormal earnings. The excess of abnormal earnings over normal earnings is quasi-rent. Quasi-rent may be earned for a temporary period. Given sufficient time to produce, it is possible to increase the supply of inputs. Once their supply is increased, the surplus in the form of quasi-rent will disappear.

The difference between rent of land and quasi-rent is that it is not possible to increase the supply of land even in the long run and, hence, rent persists even in the long run.

### 14.7 SUMMARY:

According to Ricardo rent will be paid only to land. He explained that rent arises because of limited supply equally fertile or equally accessible lands. But modern economists identified the element of rent in the incomes of all factors of production. Marshall reserved the term rent for the income derived from land and other free gifts of nature.

### 14.8 POINTS TO BE REMEMBER:

- 1) Rent is the factor payment made or price paid for the use of land.
- 2) David Ricardo is the first person to explain a separate theory for rent determination.
- 3) No Rent land is also called as Marginal land.
- 4) Modern theory of rent hinge on the supply conditions of factors of production.
- 5) Alfred Marshall introduced the concept of Quasi Rent.

### 14.9 MODEL QUESTIONS:

1. Critically examine the Ricardian Theory of Rent
2. Explain Modern Theory of Rent

#### SHORT ANSWERS:

1. Economic Rent
2. Contact Rent
3. Quasi Rent

### 14.10 SUGGESTED READINGS:

1. John Robinson : Economics of Imperfect competition
2. Marshall, Alfred : Principles of Economics
3. Stoniler and Hague : A Text-Book of Economic Theory

## **Lesson : 15**

# **WAGES**

### **15.0 AIMS AND OBJECTIVES:**

This Chapter is devoted to examine wage determination to the labour. This chapter also attempted various wage theories and role of trade unions in wage determination. After completion of this chapter, you can understand the following:

- \* What is Wage
- \* Difference between Money Wage and Real Wage
- \* Age Fund Theory
- \* Subsistence Theory of Wages
- \* Marginal Productivity Theory of Wages
- \* Modern Theory of Wages
- \* Role of Trade Unions in Wage Determination
- \* Concept of Minimum Wages

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- 15.0 Aims and Objectives**
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- 15.3 Determinants of Real Wage**
- 15.4 Reasons for Wage Differentials**
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- 15.6 Minimum Wages**
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- 15.8 Points to be Remember**
- 15.9 Model Questions**
- 15.10 References**

### **15.1 INTRODUCTION:**

Wages are the remuneration paid to labour for its productive services. Since the term 'labour' refers to all kinds of workers (unskilled, skilled or blue-collar and white-collar workers, as well as independent workers, like teachers, medical practitioners, etc.,) the term 'wage' also has a broad connotation. It includes pay, salary, emoluments, fee, commission, bonus, etc., - all kinds of income earned by labour, as a factor of production. In fact, wages may be regarded as the price per unit of time for the productive efforts of labour. The aggregate of wage payments to all the different forms and classes of labour constitutes labour's share, which usually forms a country's major part of national income.

Apparently, the meaning of wages in popular parlance and in technical sense is not the same. In popular parlance, wages constitute reward for manual work. In economics, it means reward for productive activity involving manual labour as well as the use of the mental faculty.

### **15.2 TYPES OF WAGES:**

From the point of view of payment, wages can be classified as (a) cash wages or wages in kind, according as the payment is made in cash or kind; (b) time wages, when the wage rate is fixed per hour, per day or per month; (c) piece wages, when the worker is paid according to the work done; (d) task wages, which is a payment on a contract basis, i.e., payment for finishing a specified job.

Wages are given different names, e.g., salaries for the higher staff, pay to the lower staff like clerks and typists, wages for the workers, fees for persons in independent professions like lawyers and doctors, commission for middle men, brokers, etc., and allowance for special work or for special reasons, e.g., traveling allowance, dearness allowance etc.

### **REAL WAGES AND NOMINAL WAGES:**

The money paid to a worker as a reward for his work is known as nominal wages. But what is money wanted for? Obviously for the goods and services it can buy. By 'real wages', we understand the satisfaction that a labourer gets from spending his money wages in the form of necessities, comforts and luxuries. It means the total benefits, whether in cash or kind, that a worker enjoys by working at a certain job.

### **15.3 DETERMINANTS OF REAL WAGE:**

The following factors have to be taken into account when estimating real wages:

#### **PURCHASING POWER OF MONEY:**

Money is only a medium of exchange. We value it for its power to buy goods and services. Let us take an example. We see that, according to the general index maintained by the Economic Adviser to the Government of India, average wholesale prices have gone up to nearly double as compared to 100 in 1970-71. The monthly earnings of persons with fixed salaries have not gone up to the same extent. They are, therefore, proportionately much lower than before. Therefore, to say that salaries have gone up is a pitiful joke! For such persons, real wages have fallen, as the purchasing power of money has gone down to about 50%. Price level, therefore, is an essential factor to be taken into account while estimating real wages of a worker or a group of workers.

**ADDITIONAL RECEIPTS IN KIND:**

The money income of a person may be increased by free quarters, cheap rations, a free uniform, special gifts on festival days, and the like. A person improves his living from such sources. A pension improves his living from such sources. A pension after retirement, or a free bungalow adds to an officer's real income. Hence, such additional receipts must be taken into account while estimating a person's real income.

**POSSIBILITY OF SUPPLEMENTING INCOME:**

Some employments are such as give time or create an opportunity for increasing one's income. Thus, a professor may write articles or books or a teacher may coach students privately and supplement his income. Salaried doctor may have private practice. Such supplementary earnings add to a person's real income.

**WORKING HOURS:**

We have also to consider the hours worked per day, the days per week, as well as the off-days in a year while computing a person's real income. Frequent rest intervals add to one's real wages and comfort.

In some occupations, workers have to put in extra work without extra payment. For instance, the staff of a bank has a hard time at the half-yearly close. Sometimes senior officers get unauthorized work from their juniors. Such unpaid over-time work reduces real wages.

**REGULARITY OF EMPLOYMENT:**

If a person is frequently out of work, even a high money-wage ultimately means a low real wage. Continuous employment on a lower wage is preferred to work which is more paying but is uncertain or temporary. That is why an ordinary lawyer or a doctor may take to service as against independent practice.

**NATURE OF JOB:**

Certain employments are very risky. Others reduce the length of a worker's life, e.g., driving railway engine. The life of an air pilot in action is said to be a few months on an average! In many vocations accidents are common. Money wages may be high in such cases, but, taking all things into consideration, the real wages would be low.

**FUTURE PROSPECTS:**

One may accept even a modest start if the future prospects are bright. We are struck dumb when we find school teachers after twenty years' hard work getting a bare three hundred rupees a month! Such prospects would not prove attractive if teachers could not make money from private tuition work.

**EXPENSES OF STARTING A TRADE:**

Some occupations require much initial expenditure. Good furniture and other equipment, latest surgical instruments and medicines are necessary for a doctor to start his practice. One forms a poor impression of a lawyer if his office is not furnished with at least half a dozen bookshelves stuffed with bulky volumes. Such expenses have to be deducted from money wages when estimating real wages.

These are some of the factors that have to be taken into account while estimating the real wage of a worker as distinguished from his nominal wage.

## 15.4 REASONS FOR WAGE DIFFERENTIALS:

Under conditions of perfect competition the identical workers doing the same type of jobs would get same wages. However, in the real world it is seen that different wages are paid to workers because of the following three factors :

1. Workers differ in quality, skill and training.
2. Jobs differ; some jobs are dangerous and others pleasant, some require more education and training than others.
3. Some institutional factors cause imperfections in labour markets such as discrimination against some workers, such as black race in America, women in many parts of the world, Scheduled Castes and Scheduled Tribes in India.

It should be noted that differences in wages of workers do not make demand-supply analysis of wage determination invalid. It is differences in demand and supply conditions in various labour markets that cause differences in wage rates. In other words, there is not one labour market but many - each with its different demand-supply conditions and therefore different equilibrium wage rates. Wages of the workers for whose services demand is relatively high and supply is relatively small are high. On the other hand, wages of workers whose supply is large but demand relatively weak are low. Several factors operate to cause the differences in demand and supply conditions of different types of workers. We explain below these different factors.

1. **DIFFERENCES IN ABILITIES, SKILL AND TRAINING:** The first important factor that causes differences in workers and therefore wages earned by them is that various workers differ in abilities, skill and training. An example will make this clear. Let us consider the wages of computer engineers and unskilled workers. To become computer engineers one requires a lot of education and training to acquire the skill. On the other hand, unskilled workers do not have to spend time and money for obtaining education and training. The result is that not only demand for computer professionals is high but also their supply is relatively small. It should be noted again that demand for unskilled workers is small because due to lack of skill, education and training their marginal productivity is low and their supply is large because those who cannot spend time and money in acquiring education and training can get employment as unskilled workers. It is thus clear that the difference in wages can be explained through demand-supply analysis.
2. **DIFFERENCES IN JOBS OR OCCUPATIONS: COMPENSATING WAGE DIFFERENTIALS:** The second important factor that causes differences in wages is the differences in the nature of jobs. Some jobs are more dangerous, risky and dirty than others. For example, jobs of miners in coal mines is quite dangerous; a blast or some other accident can cause even one's life. The workers working in coal mines are therefore paid higher wages than in a manufacturing industry, say in the textile industry, where there does not exist much risk of life. In the U.S.A. coal miners are

generally paid 25 per cent more wages than textile workers. It should be noted that the reason for the differences in wages in this case lies on the supply side. At each wage rate, the quantity supplied of workers is smaller for work in coal mines than in a textile industry.

Similarly, in the developed countries sanitation workers are paid higher wages than clerical workers because of dirty and unpleasant nature of the sanitation work. The differences in wages which arise due to the differences in jobs arising due to more dangerous, more dirty, more harsh climate, higher cost of living are called compensating wage differentials. Thus compensating wage differentials show higher wages that must be paid to the workers to compensate them for undesirable job characteristics.

- 3. Institutional Factors Causing Imperfect Labour Market Conditions:** Institutional factors such as discrimination on the basis of sex, race, colour of skin etc. make labour market imperfect and give rise to differences in wages. In the U.S.A. black workers (Negros) are generally paid less wages than the white workers for the same type of work on account of discrimination practiced between them. In many countries, including India, women are paid less wages than men for the same work. Therefore, demand for equal pay for equal work both for men and women has been raised in recent years. Similarly, in several parts of India, rural workers belonging to Scheduled Caste and Scheduled Tribes are paid less than high caste workers.

We have explained above only some of the factors causing differences in wage rates. The differences in natural abilities, differences in non-monetary benefits such as job satisfaction, pleasant atmosphere, freedom to choose one's work schedule as in case of a college professor and some other factors account for differences in wage rates.

## 15.5 WAGE THEORIES:

Various theories have been put forward from time to time to explain how wages are determined. We briefly refer below to some old theories and discuss in detail the Marginal Productivity Theory and the Modern Theory of Wages.

- 15.5.1 RESIDUAL CLAIMANT THEORY:** The residual claimant theory replaced the wages fund theory. According to this theory, the worker is the residual claimant of the product of industry. He gets out of the product what remains after land, capital and organisation have been paid their rewards. Thus, wages are determined after rent, interest and profits have been deducted from the total product.

**CRITICISM:** (i) In actual practice, it is found that at times of business boom when rent, interest and profits rise, wages also increase at the same time. (ii) It is not the worker who is the residual claimant, but the entrepreneur (iii) It does not explain how trade unions are able to raise wages (iv) It ignores the influence of supply of labour.

- 15.5.2 WAGE FUND THEORY:** The progress made in the field of industry during Industrial Revolution led men to realise the importance of capital in the production of wealth. Hence the idea that wages were limited by the amount of capital in use was developed. Its fuller development led to the wage-fund theory of J.S. Mill who supposed that wages depend on the "proportion between population and capital".

Workers cannot wait till their product is completed and sold before receiving wages. They must be supported during the entire process of production. They must be paid their wages in advance of the sale of product. It was common to treat capital (by the writers of the English Classical School) as consisting simply 'advances of wages' to workers, that is, sum devoted for paying wages to purchase labour power in advance of the completion and the sale of the product. Hence, it seemed natural to regard the demand for labour as being furnished by the existing stock of capital and varying directly with the accumulation of capital and varying directly with the accumulation of capital. The wage level, therefore, was found by a simple division sum : by dividing the amount of capital (wage fund) that employers were willing to pay as wage advances by the number of workers seeking employment. As J.S. Mill put it : "Wages not only depend upon the relative amount of capital and population, but cannot, under the rule of competition, be affected by anything else.". "Wages", wrote Mill, 'depend' upon the demand and supply of labour, or as it is often expressed on the proportion between population and capital. By population is here meant the number only of the labouring classes or rather of those who work for hire, and by capital, only circulating capital and not even the whole of that, but the part which is expended on the direct purchase of labour". According to Mill, employers set apart a given amount of capital for payment of wages of labour, known as wage-fund. It is called 'fund' since it is fixed. The wage fund constitutes the demand for labour. Since the wage fund is constant, wage rate depends directly on the size of labour force. The general rate of wage that goes to a worker can be found out by dividing the total wage fund with the number of workers. Wage rate, therefore, varies inversely with the supply of labour.

**CRITICISM:** The wage fund theory appears to have marked an advance over the subsistence theory in the sense that it has recognized the importance of both demand and supply in determining wages. But, by treating wage fund as a fixed amount and giving importance to supply of labour as the ultimate determinant of wages, the theory commits the same errors as the discarded subsistence theory. The theory stands discredited for a number of reasons.

- (i) In the first place, the idea that a certain definite amount of circulating capital is necessary for employing labour is of interest only with regard to production, not with regard to distribution. The first depends on what he possesses; the second depends on what he produces.
- (ii) The demand for labour depends on the state of industrial activity; but this activity depends in turn on the anticipations and plans of entrepreneurs much more than on the amount of capital they possess. When we examine the theory more closely, it amounts to saying that the average rate of wage may be ascertained by dividing the total amount paid out as wages by the number of wage earners. This is simple tautology. The theory does not go much beyond this self-evident fact to tell how the 'fund' arises and how it can be estimated.

The theory is unscientific and illogical.

- (iii) The wages of labour are paid not out of a fixed fund but out of flow of goods and services. National income out of which wages are paid is a flow and not a fund. In a period of depression capital fund increases while wages fall. This phenomenon cannot be explained by the theory.



- (iv) The theory ignores the influence of efficiency of labour on wages.
- (v) The assumption that wages can increase only at the expense of profits is unwarranted. Moreover, an increase in wages at the expense of profits does not immediately drive away the capital from an industry. Much of the capital is specific and immobile.
- (vi) The theory fails to explain difference in wages between occupations. Further, a rise in wages is not necessarily followed by an increase in population; it may lead to higher standard of living.
- (vii) Probably the most destructive criticism of the fund theory was presented by the Thornton, whose celebrated book "On Labour" led J.S. Mill to abandon the theory. Labourers, by combining may exercise a monopoly influence and so raise the rate of wages. If this were true, then there can be no fixed wage fund, the exact amount of which must be expended on wages.

**15.5.3 THE SUBSISTENCE THEORY OF WAGES:** In France, in the 18<sup>th</sup> Century, the peasantry were in a pitiable state of poverty. They worked hard for a bare living, and any surplus over necessities of life was taken away by the State in the form of taxation. They were thus in no way better than a lifeless machine. If the workers for any reason became comfortable population grew at a fast rate again lowering the level of wages to the subsistence level. Wages were just sufficient to keep the body and soul of workers together.

All this led Physiocrats, a group of French economists, to believe that there was a kind of law wages, a law whose operation was inevitable. The law assumes that labour is a commodity and like the price of any commodity, the price of labour approximates its cost of production in the long run. Cost of production was taken to mean the subsistence of a worker. "Wages equaled the amount of commodities necessary to feed and clothe a worker and his family; which represented the cost of society of enabling the laborers to subsist and perpetuate their race" – Ricardo. This implied that what the worker received under a wage system was the same as what he received under slavery – in each case enough to cover the labourer's 'wear and tear'. It followed that if the price of necessities increased or decreased, money wages also would be bound to rise or fall before long. If a tax was imposed on wages, wages must rise by an equivalent amount, and the burden of the tax in this way be thrown upon the employer. The cost of production with a machine includes (i) the amount of oil and fuel consumed, and (ii) the amount of replacement charges to install a new one when it is rendered useless. In the same manner, the cost of production of labour consists of (i) the value of goods consumed by him, and (ii) the amount necessary to enable the worker to subsist and perpetuate his race without increase or diminution.

**CRITICISM:** The theory is pessimistic and contrary to facts.

- (i) The theory is based on the Malthusian theory of population. It assumes that a rise in wages above the subsistence level is immediately followed by a growth of population which forces wages down to the subsistence level. There is no reason why population should increase with every rise in wages above subsistence level. The workers may try to improve their standard of living, and this often serves to restrict the supply of labour.

- (ii) The theory cannot explain differences in wages in different occupations. Why should a professor draw more than a street sweeper? Does he consume more commodities? Why are wages in one country higher than those in another? The theory cannot provide answer to such questions and the theory ignores the fact that labour is heterogeneous.
- (iii) The theory ignores completely the efficiency of workers and by ignoring demand, the theory has not recognized the importance of productivity of labour in determining wages.

#### 15.5.4: MARGINAL PRODUCTIVITY THEORY OF WAGES:

The marginal productivity theory states that, under conditions of perfect competition, every worker of same skill and efficiency in a given category will receive a wage equal to the value of the marginal product of that type of labour.

The marginal product of labour in any industry is the amount by which the output would be increased if one more man was employed while the quantities of other factors of production employed in the industry remained constant. In short, it is the output of a single worker unaccompanied by any change in other factors of production. The value of the marginal product of labour is the price at which the marginal product can be sold in the market. Under conditions of perfect competition, an employer will go on employing more and more workers until the value of the product of the last man he employs is equal to the marginal or additional cost of employing the last man.

Further the condition of perfect competition implies that the marginal cost of labour is always equal to the wage rate, irrespective of the number of men the employer may employ. Every industry being ultimately subject to law of diminishing returns, this marginal product must start declining sooner or later. Wages remaining the same, the employer stops employing more workers at that point where the value of the product of a worker is equal to the wage rate.

So far we have assumed that the quantities of other factors remain constant while that of labour alone increases. This, however, is not realistic, because quantities of other factors too can be increased, though this may not be true in the short run. To allow for this fact, the economists make use of the term "marginal net product of labour" instead of "marginal product of labour". The value of marginal net product of labour may be defined as being the value of the amount by which output would be increased by employing one more man with the appropriate addition of other factors of production, less the addition to the cost of the other factors caused by increasing the quantities of other factors.

The theory may thus finally be re-stated as follows : Under conditions of perfect competition in the labour market and in the market for the products of the industry, and irrespective of the number employed, every worker will receive a wage equal to the value of marginal net product of his labour.

**LIMITATIONS OF THE THEORY:** We have already studied in detail the various limitations and criticisms of the Marginal Productivity Theory as a general principle of distribution. With reference to its application to wages, we may repeat that the theory is

true only under certain assumptions such as perfect competition, perfect mobility labour from employment to employment, homogeneous character of all labour, constant rates of interest and rent and given prices of the product. It is a static theory.

The actual world is dynamic. All the factors assumed to be constant are in fact constantly changing, competition is never perfect; mobility of labour is restricted for various reasons; all labour is not of the same grade, remuneration to other factors of production does not remain constant; and the prices of the products of labour vary. All these changes modify the theory when applied to actual conditions.

The theory, however, as an assertion of a tendency is true and is valuable in understanding the basic forces that determine wage rates.

In the actual world, owing to the absence of the above assumptions, there is no single rate of wages that may be applicable to all labour of a particular type. Wages differ from place to place, from person to person and from employment to employment.

The following limitations or points of criticism of the marginal productivity theory may now be noted:

Firstly, this theory has little applicability to reality. The labour is not perfectly mobile. Workers of the same skill and efficiency may not receive the same wages at two different places.

Secondly, though the condition of a large number of independent sellers is fulfilled for a few industries of all countries and for most industries of some countries, the employers usually combine to the disadvantage of the workers. It is a case of monopsony, i.e., one buyer (i.e., the employer) and many sellers (i.e., workers). The employers succeed in pulling down the wages below the value of the marginal net product of labour. If employees are also collectively organized, the wage rates may or may not be equal to the values of marginal net product of labour in the occupations or industries concerned. The wages are determined by the relative bargaining strength of the two parties, but will not for a long time exceed the value of the marginal net product of labour.

Thirdly, the market for goods is in general characterised by imperfect competition. This also upsets the theory.

Fourthly, the productivity of workers is also dependent on factors such as the quality of capital and efficiency of management. These factors are beyond the control of workers.

Fifthly, productivity is also dependent on wages. Low productivity may be the cause of low wages, which may tell on the efficiency of the worker, lower his standard of living, and ultimately check the supply of labour. The theory takes the supply of labour for granted.

In short, the marginal productivity theory ignores the effect of wage changes on the supply of labour, bargaining strength and monopoly conditions, etc.

**CONCLUSION:** In spite of these limitations, it may be said that the marginal productivity theory is more satisfactory than the earlier theories. It furnishes a more satisfactory explanation of difference in wages in different countries or at different times in the same country.

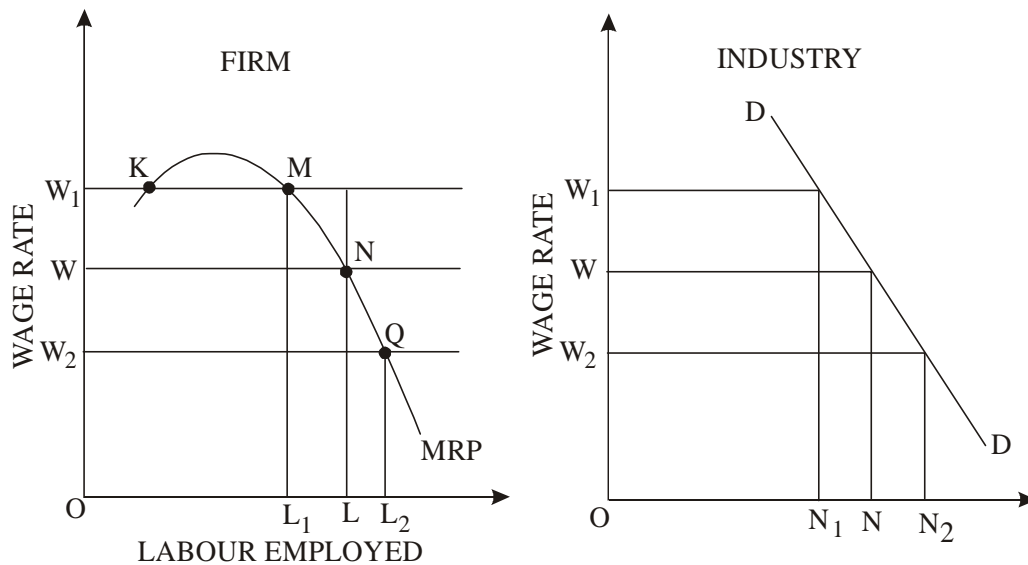
**15.5.5: MODERN THEORY OF WAGES:**

The marginal productivity theory of factor pricing of J.B. Clark states that the price of a factor becomes equal to its marginal product and thus the relationship between the wage rate and the marginal product of labour provides us the demand curve for labour. According to Marshall, a theory which tries to explain wage determination must take into account the supply curve of labour as well. Demand and supply exert equal influence on wages. The Modern Theory of Wages takes into account both the demand and supply side. The modern theory is the result of the work to Marshall and Hicks. To know how the price of a factor is determined, we shall have to pay attention to both total demand and total supply of that factor. The price of a factor like the price of any commodity is determined by its total demand and total supply.

**DEMAND SIDE:** Let us first consider demand side. It has already been pointed out that demand for labour is a derived demand. The demand curve for labour can be expressed in terms of marginal revenue product. In fact, the marginal revenue productivity curve of labour to a firm is in reality the firm's demand curve for labour. The total demand for labour is the sum total of demand for all firms composing the industry. The demand for labour depends upon three important determinants.

1. Firstly, it depends upon the demand for the product which that labour produces. and the elasticity of demand for labour depends on the elasticity of demand for the product.
2. The demand for labour will also depend on the quantity of other factors required in the productive process. If the other factors are costly, labour is substituted, subject to technological possibilities.
3. The demand for labour depends on technology for input-output relations in a firm. Technology affects the rate of decline in marginal revenue product as more labour is employed. If the marginal revenue productivity falls gradually a slight fall in wage rate is sufficient to induce a firm to employ more labour.

The demand curve for labour slopes downward – more labour will be employed if wages are low, and less if wages are high. The typical demand curve for labour is less elastic during short period but over a long period of time, demand is likely to become more elastic because of the possibility of substitution between labour and other factors. Let us derive the demand curve of labour for the industry with the help of figure.



In the left hand side figure the position of firm is shown. MRP curve is the marginal revenue productivity curve of labour. The MRP curve slopes downward from left to right because of diminishing returns. As varying amounts of factor are employed with fixed amounts of other factors, after a point, first the marginal product and then the average product of that factor will diminish.

If the wage rate is  $OW_1$ , the firm will employ  $OL_1$  amount of the factor. At  $OL_1$  amount MRP is equal to the wage rate. The equilibrium point is M. It means that a firm will demand  $OL_1$  units of a factor when the price of a factor unit is  $OW_1$ . When the wage rate falls from  $OW_1$  to  $OW$  the firm is in equilibrium at point N. If the price further falls to  $OW_2$ , the firm will employ  $OL_2$  factor units. Thus as the price falls, the demand for factor will increase. The marginal revenue productivity curve of a labour is in fact the demand curve of the firm for that factor.

If there are 100 firms in the industry the total demand for labour can be derived by multiplying the individual firm's demand with 100. In other words, we get the total demand curve of industry by the lateral summation of firm's demand curves. The industry's demand curve for the factor is shown on the right hand side figure. It is DD. It slopes downwards from left to right.

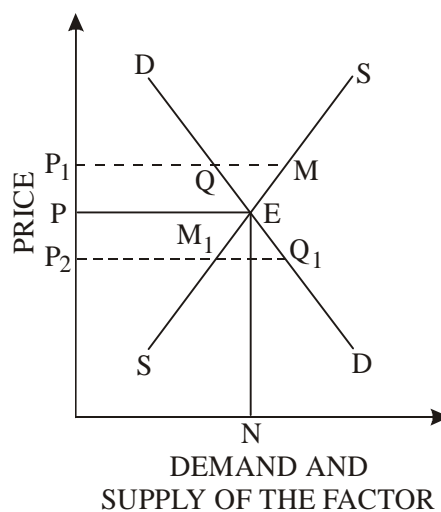
**SUPPLY SIDE:** The supply curve of labour is a bit complicated affair. By supply of labour we mean the number of men offered for work at various rates of wages. Normally, the greater the wage rate offered, the larger will be the supply of labour. The supply of labour depends on the size and composition of population, its occupational distribution, its efficiency, the number of hours worked, the relative preference for leisure and work etc. Both economic and non-economic factors play an important role in determining the supply of labour. Labour may prefer to have more leisure when wage rate increases. Changes

in effective supply of labour take place as a result of changes in the number of workers available, the hours worked, the intensity of work and the skill of workers. In spite of all this it may be stated that the supply curve of labour slopes upward to the right.

There are two important factors that affect the supply of labour to a particular industry.

1. In the first place, the supply of labour depends on occupational shifts. Shift from one occupation to another takes place as a result of prevalence of higher wage rate.
2. The second important factor which affects the supply curve of labour is the work-leisure ratio. It may happen sometimes that if wages go up, labour may be able to satisfy its needs by working for a shorter time.

**WAGE DETERMINATION:** The rate of wage is determined by total demand and supply. The price must be such as to equate demand and supply. If the actual rate of wage is higher than the equilibrium wage, some workers will be unable to secure employment and will consequently beat down the rate of wage until all can be employed. If on the other hand, the wage is below the equilibrium wage, the demand for labour exceeds its supply and the wage rate will rise through competition. This is shown in figure.

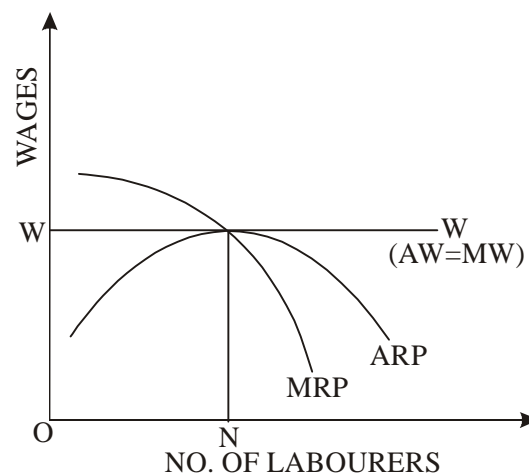


In this diagram the supply and demand curves intersect each other at the point E and the wage rate is OP. This is how the wage rate is determined in a competitive market by the interaction of forces of demand and supply. Once the wage rate is determined for the entire industry, each firm must accept the wage rate as a given fact which it is powerless to alter. The wage rate is the marginal cost to the firm. We can show that in the long-run, under condition of perfect competition, the wage rate becomes equal to average and marginal revenue products of labour.

**EQUILIBRIUM OF FIRM AND INDUSTRY:** A firm attains equilibrium when wage (marginal cost) is equal to the marginal revenue product of labour. It makes maximum profits. If it proceeds beyond that point, marginal cost will exceed marginal revenue

product. In the short run, wage rate and marginal revenue product of labour must become equal, if the firm is to attain equilibrium.

The industry will attain equilibrium when the wage rate is also equal to the average revenue product. (i) If the wage rate is lower than the average revenue product, the firms make abnormal profits. New firms therefore enter the industry. This will, on the one hand, increase the demand for labour and push up the wage rate; it will, on the other hand, increase output of the commodity produced by labour and thereby reduce average revenue product. In the long-run, wage rates becomes equal to average revenue product. (ii) If the wage rate is higher than average revenue product, the firms incur loss. Some firms leave the industry. This will lead to a fall in demand for labour and consequently a fall in wage rate. As the number of firms decreases, the output of the commodity falls. This will lead to a rise in the price of the product; hence the average revenue product. (iii) If the wage rate is equal to the average revenue product, the firms make normal profits. The number of firms does not alter. The industry is said to be in equilibrium. This is shown in the diagram.



OW wage rate is determined by the total demand and supply curves of labour. At that wage rate a firm can employ as much labour as it wishes. The wage line (the supply curve of labour) to a firm is a horizontal line. It becomes tangent to ARP curve at its maximum point. At that point  $MRP = ARP$ . Hence in the long run, the wage rate becomes equal to both MRP and ARP. The firms make normal profits. The industry is in equilibrium.

## 15.6 ROLE OF TRADE UNIONS IN WAGE DETERMINATION:

Trade unionism is an integral part of the working life of workers in the modern industrial system. Trade unions, thus, exert a great influence on wage formation in a modern economy.

**AIMS AND OBJECTIVES OF TRADE UNIONS:** A trade union (or 'union' for brevity) is a continuous, independent and voluntary association of workers for the purpose of maintaining or improving the conditions of their employment.

Policies and strength of trade unions may vary in their effectiveness. The common aims of the unions are: (i) The increase in wage rates, (ii) The reduction of working hours, (iii) The maintaining of a hygienic and safe environment of the working place, and (iv) The protection of individual workers from ill-treatment by the employers or supervisors.

The major objectives of a trade union are, thus: (i) to product employment of its members, (ii) to maximize the wage rates without adversely affecting the prospects of employment, and (iii) To maximize the aggregate incomes of its members.

**THE EFFECT OF TRADE UNIONS:** The existence or emergence of trade unions implies the creation of a non competitive force in the labour market. According to Stigler, a trade union in the labour market is similar to a cartel in the product market, since it exerts a monopoly influence on the labour supply, that is to say, the trade union brings an element of monopoly on the supply side of the labour market.

In short, trade unions can have some control over the labour supply which helps them in pressing their demands, especially for higher wages.

#### **HOW CAN TRADE UNIONS RAISE WAGES?:**

Prof. Samuelson mentions that a trade union can seek to raise wages in a particular industry in four major ways:

1. By reducing or restricting the supply of labour.
2. By using its collective bargaining power to raise standard wage rates directly.
3. By causing the demand for labour to increase.
4. By resisting exploitation of workers at the hands of the monopolist producer, i.e., combating the monopoly power with countervailing power of the union.

These devices are "often much a like and often are reinforcing. But they also display significant differences."

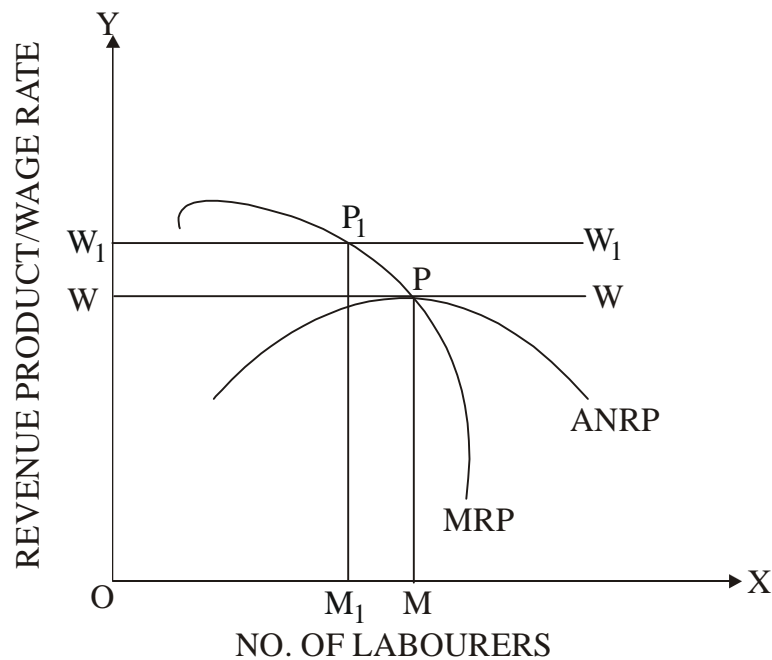
### **15.7 MINIMUM WAGES:**

The minimum wage is that wage which must provide not only for the bare sustenance of life but also for the preservation of the efficiency of the worker. It is the minimum that must be paid to the worker. It is the minimum that must be paid to the worker to cover his and his family's bare necessities including, some measure of education, medical and other necessary amenities of life.

Many governments fix minimum wages for certain industries through legislation to protect the workers against the exploitation of employers. Let us assume that there exists perfect competition among the employers in a particular industry, and the government fixes the minimum wage for such an industry. If the minimum wage fixed by the government is less than minimum wage for such an industry. If the minimum wage for such an industry. If the minimum wage fixed by the government is less than the existing wage it would be meaningless. If the minimum wage is equal to existing equilibrium wage, it merely freezes the existing situation, and does not bring about any improvement in the conditions of the workers. A minimum wage becomes meaningful only when it exceeds the existing equilibrium wage.

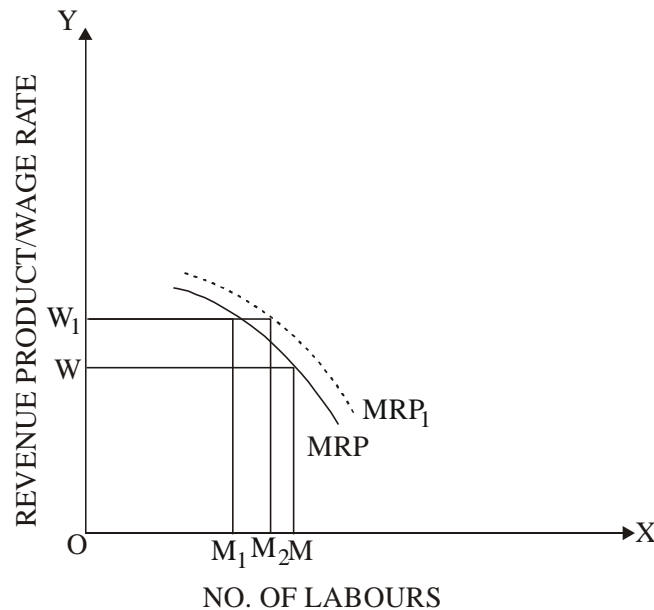


Let us now analyse the implication of a minimum wage which is higher than the existing wage. Since we have assumed the existence of perfect competition among the firms, the wage curve (average wage curve as well as marginal wage curve) of a particular firm would be horizontal straight line (WW) as shown in the diagram below.



In the Diagram, the firm is in equilibrium when it employs  $OM$  labourers, because at this level of employment, the  $MRP$  of labour equals the marginal wage. Now let us suppose that the government fixes the minimum wage of  $OW_1$ .  $OW_1$  wage is higher than the equilibrium wage  $OW$ . The fixation of minimum wage at a level higher than that of the equilibrium wage reduces the number of workers from  $OM$  to  $OM_1$ . The workers who lose their jobs will naturally suffer hardships. Fixation of minimum wage, therefore, is no unmixed blessing as it is accompanied by a certain amount of unemployment among the workers.

The hardships of the workers resulting from unemployment can be mitigated to some extent if the firm in question raises the price of its product. In that case, the burden of the higher minimum wage can be passed on to the consumers to some extent in the form of the higher price. A rise in the price of the product will result in the shifting of the  $MRP$  curve of labour to the right. The shifting of the  $MRP$  curve to the right means that the decline in the volume of employment would not be as much as it would be if the price of the product had not been raised. This is shown in the diagram below.



In this Diagram, the firm is in equilibrium at  $OW$  wage employing  $OM$  number of labourers. Then the minimum wage is fixed by the government at  $OW_1$ . Consequent upon the higher minimum wage, the volume of employment is reduced from  $OM$  to  $OM_1$  (or, by  $M_1M$ ). If, meanwhile, the firm raises the price of the product, the  $MRP$  curve of labour will shift to the right (the dashed  $MRP_1$  curve). The volume of employment will now be reduced to  $OM_2$ . In other words, the fall in employment now will be  $M_2M$  and not  $M_1M$ .

Despite all this, even if there is some unemployment consequent upon minimum wage fixation, it should be dealt with through liberal grants of unemployment allowances to the workers. If the unemployment allowance is not much less than the wage-rate, which ruled in the market prior to the fixation of the minimum wage, the unemployed workers would not suffer much, while those remain in employment would secure a substantial gain through the higher minimum wage.

### 15.8 SUMMARY:

Wages are the remuneration paid to labour for its productive services. Usually wage bill be paid in the form of money. These are called as money wages.

### 15.9 POINTS TO REMEMBER:

1. In economics, wage means reward for productive activity involving manual labour as well as the use of the mental faculty.
2. Money wage will be paid in the form of money.

**15.10 MODEL QUESTIONS:**

1. Critically examine the Marginal productivity these of wage.
2. Explain modern theory of wages.
3. Examine different wage theories.

**SHORT ANSWER QUESTIONS:**

1. What is the difference between money wage and real wage. Explain reasons for wage differentials.
2. Can the trade unions increase wages ? Discuss.

**VERY SHORT ANSWER QUESTIONS:**

1. Money wage - Real wage
2. Wage fund Theory
3. Substistance Theory of wages
4. Role of trade unions in wage determination
5. Minimum wages

**15.11 REFERENCES:**

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## **Lesson : 16**

# **INTEREST**

### **16.0 AIMS AND OBJECTIVES:**

Interest is the amount that a borrower agrees to pay to an lender at a specific rate for a specific period. Several theories have been evolved to explain. Why interest is paid and it is determined. They have been examined in detail in the following pages. After completion of this lesson, you can understand the following :

- \* What is interest and types of interest
- \* Marginal Productivity theory of interest
- \* Abstinence or Waiting Theory
- \* Agio or Austrian Theory
- \* Time Preference Theory
- \* Classical Theory of interest
- \* Lovable Funds Theory
- \* Liquidity Preference Theory
- \* Modern Theory of Interest

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- 16.0 Aims and Objectives**
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- 16.5 Conclusions
- 16.6 Points to be remember
- 16.7 Model Questions
- 16.8 References

## 16.1 INTRODUCTION:

In general parlance, interest is the amount that a borrower agrees to pay to a lender at a specific rate for a specific period. Usually, the rate of interest is the percent of interest on the principal calculated for one year. A borrower pays interest on the funds because he expects to obtain a return higher than the interest rate by using them productively. A lender receives the interest income because he is parting with liquidity. A lender postpones consumption by parting with funds. He faces inconvenience by not being able to use the funds for immediate consumption or he may lose alternative investment opportunities. He may not find good opportunities of investment when he receives the principal from the borrower. So, he charges an interest to compensate for these inconveniences.

## 16.2 INTEREST MEANING:

The term 'interest' is used in two senses : (i) as a price or compensation paid by the borrowers to the lenders of loanable funds, and (ii) as a reward to the capital as a factor of production.

Classical economists like Adam Smith and David Ricardo, for instance, regarded interest as a return on capital invested. They considered it to be an income to capital just as rent is to land. Thus, classical economists measured the rate of interest in real terms. On practical considerations, however, modern economists usually treat interest as the price of borrowed money. Benham, for instance, defines interest as the 'price paid for a loan'. Meyer also puts it that interest is the 'price paid for the use of loanable funds'. Keynes regarded interest to be a purely monetary phenomenon and defined it as 'the reward made to the lender of money for parting with liquidity'.

As is commonly understood, interest is the payment made by the borrower to the lender of a money loan. It is usually expressed as an annual rate in terms of money and is calculated on the principal of the loan. We may define interest as *the price paid for the use of other's capital funds for a certain period of time*. In the real economic sense, however, interest may be conceived as a price of a money loan, i.e., liquid capital, which may be borrowed either for production or even for consumption purposes.

## 16.3 COMPONENTS OF INTEREST (GROSS AND NET INTEREST):

### GROSS AND NET INTEREST:

Distinction is often drawn between gross interest and net interest. The whole income received by the owner of capital is not pure but gross interest. Net interest is a payment made exclusively for the service of capital. Net interest is a payment for loan capital, when no risk, no

inconvenience and no work is entailed on the lender. Gross interest includes insurance against risks, wages of management and compensation for inconvenience. Thus the gross interest varies due to these elements but the net interest tends to be uniform. If perfect competition works fully the gross rate of interest will differ very widely. The more thoroughly the lenders and borrowers understand their business, the more certainly will some borrowers obtain loans at a lower rate than others.

## 16.4 THEORIES OF INTEREST:

**16.4.1 MARGINAL PRODUCTIVITY THEORY OF INTEREST:** Physiocrats and some classical economists hold that interest is the reward paid to capital because it is productive. In fact, interest is paid out of the productivity of capital. When more amount of capital is employed along with labour and other resources, the overall productivity improves. Since by employing capital the borrower (entrepreneur) obtains higher production, he ought to pay a part of this additional production to the owner of capital in the form of interest. The theory implies that capital is demanded because it is productive. And, because it is productive, its price i.e., interest, must be paid.

The theory has several drawbacks. It is a one-sided theory as it is related only to the demand aspect of capital but completely ignores the supply side. If, however, the supply of capital is abundant, then, however great the capital productivity may be, the question of interest will not arise, or, at least, interest will be only nominal. Whereas this theory suggests that when productivity of capital is higher, interest is payable. On the contrary, if capital is in short supply, greater will be the relative scarcity and higher will be the rate of interest.

Again, productivity of capital varies in different industries. This means that interest rates should differ from industry to industry. However, the fact is that the pure interest rate will be the same throughout the market and the borrower may borrow capital for any use. Above all, it is difficult to measure the exact productivity of capital, as capital alone cannot produce anything without the help of labour and other factors. In practice, interest-bearing loans are also made for consumption purposes. The productivity theory fails to explain the interest paid for such consumption loans.

**16.4.2 ABSTINENCE OR WAITING THEORY:** The interest is the reward for abstinence was first stated by the famous English economist Senior. Senior believed that interest accrues on capital which is the result of saving. Since every act of saving involves sacrifice of present consumption or abstinence, interest must be said to be the payment for this abstinence or sacrifice. Since abstinence is disagreeable and painful, some compensation must be paid to people to induce to undergo such sacrifice; the payment of compensation for sacrifice is interest.

The theory analyses the problem of interest only from the side of supply and completely ignores the factors on the side of demand. The idea of abstinence was criticised on the ground that it suggests discomfort and sacrifice. Further, it is difficult to estimate the sacrifice involved in the savings of different people so as to base the rate of interest on the degree of sacrifice. There is no calculus of pleasures and pains. Further, it is unreasonable to describe capital as the result of abstinence. It is inconceivable how

anything whatever could be produced by a purely negative act; whether we call it abstinence or saving, in either case it is simply abstention. Production is a positive act, and not a negative one.

Because of these shortcomings of the Senior's theory, Marshall substituted the term 'waiting' for abstinence. He treated interest as a reward for the postponement of present satisfaction. When a person saves he does not forego consumption for ever; he only defers it to future. He has to wait; interest is the reward for waiting. Waiting has been considered by Marshall as a separate factor of production, for, as production becomes more round about, waiting for the reward becomes more predominant. The word 'waiting' is superior to 'abstinence' as it does not denote any sacrifice; it is neutral in its meaning. Since waiting is a separate factor of production, its reward, interest, depends on the demand for and supply and of waiting. The rate of interest will settle at the point where demand for waiting is equal to its supply. The rate of interest must be high enough to call forth the marginal increment of saving.

The theory has an element of truth in it but does not clearly analyse the forces acting on the side of demand for capital. Unless we accept the doctrine of real cost we cannot accept that 'waiting as a factor of production. Keynes has raised a fundamental objection against the theory. According to him, waiting theory is correct only when there is full employment. When there is full employment people must reduce their consumption in order to release resource for building up of capital assets. Production, therefore, do not undertake investment. The waiting theory cannot therefore explain how the rate of interest is determined under the condition of unemployment.

**16.4.3 AGIO OR AUSTRIAN THEORY:** The Agio theory of interest was given final shape by Bohm Bawerk, an Austrian economist. The gist of the theory is that interest arises because men prefer present goods to future goods, and therefore, there is an 'agio' or premium on present goods. It is the psychology of human beings that they always prefer present satisfactions to future gratifications. In other words, future satisfactions when viewed from the present undergo a certain amount of discount. Interest is the premium which the present goods command over future goods of the like kind and number.

Why do people prefer present satisfactions to future satisfactions ? Bohm Bawerk gives three reasons : (1) The future is less clearly perceived than the present. This is what is called the *perspective underestimate of the future*. (2) Secondly, present wants are felt more keenly than future wants. The demand for present goods is therefore more than the demand for future goods. The present goods are therefore relatively scarcer than future goods. (3) Present goods command a technical superiority over future goods due to the employment of round about methods of production. In short, people place in 'agio' or 'premium' on the present goods when compared with those of future. Interest is the premium which the present goods command over future goods of like kind and number.

**16.4.4 TIME REFERENCE THEORY:** Irving Fisher also presented a modified and more convincing interpretation of time-preference theory of interest. He argued that even when the future is certain, people have a tendency to prefer present income and its satisfaction than to future satisfaction. Hence, usually people are keen on spending their income in the

present time. Interest is, therefore, *a compensation to be paid for the time preference of people who save.*

Fisher writes, "Only time-preference could account for interest, for where one was indifferent as to the present and future, interest could not arise." Infact, he defined interest as "an index of the community's preference for a dollar of present over a dollar of future income". According to Fisher, the intensity of the people's preference for present income depends on a host of subjective and objective factors. These are grouped into (i) : willingness, and (ii) opportunity. Thus, Fisher based his theory of interest on two principles, viz., (a) the impatience or the willingness principle, and (b) the investment opportunity principle. He laid down that interest is determined by the preference of the people for the present income against future income, which, in turn, is determined by the willingness principle and the investment opportunity principle.

The willingness principle depends on several factors, such as : (a) size of income, (b) composition of income (c) distribution of income, (d) uncertainty element in future earnings, (e) personal attributes like foresight, precaution, etc. Some of these factors encourage people's patience, some make them impatient. But, if the market rate of interest is lower than the rate of willingness, the person would like to borrow money and spend it on current consumption.

Similarly, the investment opportunity principle is another determinant of the rate of interest. This principle refers to the rate of return over cost, viewed in a specific sense. In short, the rate of willingness and the rate of marginal return over cost together determine the people's preference for present income rather than future income, which, in turn, determines the interest is the price paid for this preference. Fisher's theory, in this way, considers time-preference as the sole significant determinant of the supply of capital and the rate of interest.

**CRITICISMS:** The time-preference theory has been severely criticised by many economists. The important criticisms are:

1. It is a one-sided theory. It explains why capital has a supply price, but fails to point out why capital has a demand. It completely ignores the productivity aspect of capital.
2. It considers that supply of capital is the outcome of savings alone. It does not recognise the impact of the banking system and credit created by commercial banks on investments and the rate of interest.
3. Erich Roll states that the very existence of time-preference is questionable and, even if it exists, it is difficult to see any precise significance of time-preference in the determination of interest.
4. To some critics, it is incorrect to say that a person always prefers present consumption to the future one, so that he always insists on a premium to be paid for postponement. On the contrary, strangely enough, very often, a person is found to have realised greater satisfaction from future consumption than the present one.



**16.4.5 CLASSICAL THEORY OF INTEREST:** According to the classical theory, the forces of supply and demand determine interest. Interest is the price paid for the use of capital. The demand for capital arises from investments and the supply of capital depends on savings. The classical theory was developed by several economists such as Marshall, Pigou, Knight and Taussig. But it is Keynes who brought the theory to a definite shape and constantly referred to the classical theory in his classic work *The General Theory of Employment, Interest, and Money* and who popularised the classical theory through his criticism.

The classical theory uses the terms real savings and real investment. When it uses the term savings, it means 'real savings' and when it uses the term investment it means real investment. Real savings refers to those goods that are employed for productive purposes and not for consumption. Real investment refers to the actual production of a new capital good that is used for further production such as a machine and a factory. The classical theory is also called the Real Theory of Interest.

**DEMAND FOR CAPITAL:** Firms demand capital because they would like to invest, that is, they would like to purchase or manufacture by themselves new capital goods. They would like to use the capital goods for the production of other capital goods or consumer goods. Capital here means goods such as machines and equipment that are used for further production. The demand for capital arises due to its productivity. The productivity of capital differs for different uses. In other words, it is more productive in some uses than in others. As the supply of capital is scarce in relation to its demand, it will be used only in the more productive ways.

Under perfectly competitive conditions, it is profitable for a firm to use any factor input up to the point where the price of the factor input is equal to its marginal revenue productivity. In the case of capital also, the firm will demand capital, that is, savings, for the purchase of capital goods till the price of the capital, that is, the rate of interest is equal to the marginal revenue product. For an individual firm, the rate of interest is given, under competitive conditions. The firm has to adjust its demand for capital to the given rate of interest. The marginal revenue product curve represents the demand curve and slopes down from left to right. Less capital will be demanded at higher rates of interest and more at lower rates. In other words, there will be a greater demand for savings for investment at lower rates and vice-versa.

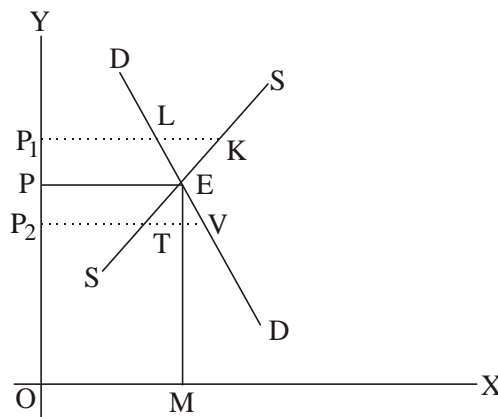
**SUPPLY OF CAPITAL:** Generally, the supply of savings depends upon the size of income, expectations of increase or decrease in income in the future, job security or insecurity and so on. There are many reasons for people to save money. They save as a hedge against unforeseen contingencies. They save to face problems in the future with courage and confidence. During the times of ill health, loss of job and marriages of children, savings come to their rescue. The proportion of income saved varies from one person to another. The income levels of people, their attitude and outlook towards the future, credit facilities available in the money market in times of necessity and so on, influence savings.

As per the classical theory, the factor that influences the supply of savings is the rate of interest. Saving involves certain inconveniences and sacrifices and there should be adequate compensation. It is the rate of interest that compensates the inconveniences.

A higher rate of interest induces people to save more. Generally, there is a direct relationship between the rate of interest and savings. Hence, the saving curve slopes upwards from left to right indicating that saving is positively related to the rate of interest.

**EQUALITY OF SAVING AND INVESTMENT:** According to the classical theory, rate of interest is determined by the intersection of demand for savings (demand for investible funds or demand for investment or demand for the purchase of capital goods) and supply of savings, which can be observed in Fig.1.

**Fig. 1**



DD is the demand curve and SS the supply curve. They intersect at point E. OP is the price of factor input capital, that is OP is the equilibrium rate of interest. At  $P_1$  rate of interest, supply of savings is more but the demand for savings for investment purposes is less and, hence, it cannot be the equilibrium rate of interest. Similarly, at  $OP_2$  rate of interest, that is, at a lower rate of interest, the demand for capital savings for investment purposes, that is, demand for capital, is more but supply of savings, that is supply of capital, is less and  $OP_2$  cannot be the equilibrium rate of interest. Only at OP rate of interest, the demand for and supply of capital is equal and the demand and supply curves intersect at point E and, hence OP is the equilibrium rate of interest.

**CRITICISMS:**

1. The theory assumes full employment of factors of production. But in the real world, full employment of resources seldom takes place. Generally, resources, labour or capital remain idle.
2. According to Keynes, saving and investment equality is brought about by changes in income levels and not by interest rates.
3. The theory takes into consideration only real factors such as productivity, waiting and sacrifice. It completely ignores monetary factors. According to Keynes, monetary factors play a dominant role in the determination of rate of interest.

4. Bank credit is ignored. Savings is not the only source of capital. Bank credit also plays a dominant role in the determination of interest.
5. It ignores demand for savings for unproductive purposes. Savings may be demanded for consumption purposes. The classical theory ignores this aspect.
6. Saving and investment are assumed to be independent by the classical theory. But in reality, saving and investment are interdependent.
7. According to Keynes, the classical theory is indeterminate. Position of savings schedule or curve depends on income levels. Unless income levels are known, the position of saving curve cannot be known. If income levels rise, the saving curve shifts to the right. If they fall, the curve shifts to the left. We cannot know income levels unless we know the rate of interest. A lower interest means larger investment and larger investment means a higher level of real income. The classical theory does not provide any solution and it is indeterminate.

**16.4.6 LONABLE FUNDS THEORY:** According to this theory, interest is the price paid for the use of loanable funds, and as such, is determined by the demand for and the supply of loanable funds. The Loanable Funds Theory of Interest was formulated by the famous Swedish economist Wicksell. One economist's line Myrdal, Lindhal, Ohlin and Robertson made further refinements to the theory. The theory integrates monetary and non-monetary aspects of interest. The Classical Theory ran in real terms and did not take account of monetary factors in the determination of the rate of interest. The loanable fund theory recognises, besides savings and investment, the role of hoards in determining the rate of interest. The rate of interest is a function of four variables - savings, investment, the desire to hoard and the quantity of money.

**SUPPLY OF LOANABLE FUNDS:** The supply of loanable funds is derived from four sources like savings, dishoarding, bank credit and disinvestments.

1. Savings by individuals and households constitute the most important source of supply of loanable funds. Savings may be looked in either of the two ways: ex ante or ex post, i.e., saving planned by individuals at the beginning of a period in the hope of expected income and anticipated consumption expenditure or savings as the difference between the income of the preceding period and consumption of the present period. Savings depend on the level of income. But given the level of income, savings vary with the rate of interest. Like individuals, business houses also save a part of their profits. But their savings are more often used for investment by the business houses themselves and therefore do not enter into the market for loanable funds.
2. Banking system provides loanable funds in the process of manufacture of money. Money created by banks adds greatly to the supply of loanable funds. Generally speaking, banks lend more money at higher rates of interest than at lower rates, other things remaining the same.
3. Disinvestment is said to take place when the stock of existing machines is allowed to wear out without being replaced or when the inventories are drawn below the

level of the previous period. Such disinvestments takes place because of structural changes. Disinvestment is encouraged somewhat by a high rate of interest on loanable funds.

The supply curve of loanable funds slopes upward to the right showing that a greater amount of loanable funds will be available at a higher rate of interest and vice versa.

4. Disharding is another source of loanable funds. Savings which are kept in idle form may be released into the market. If the rate of interest rises, more money will be dishoarded.

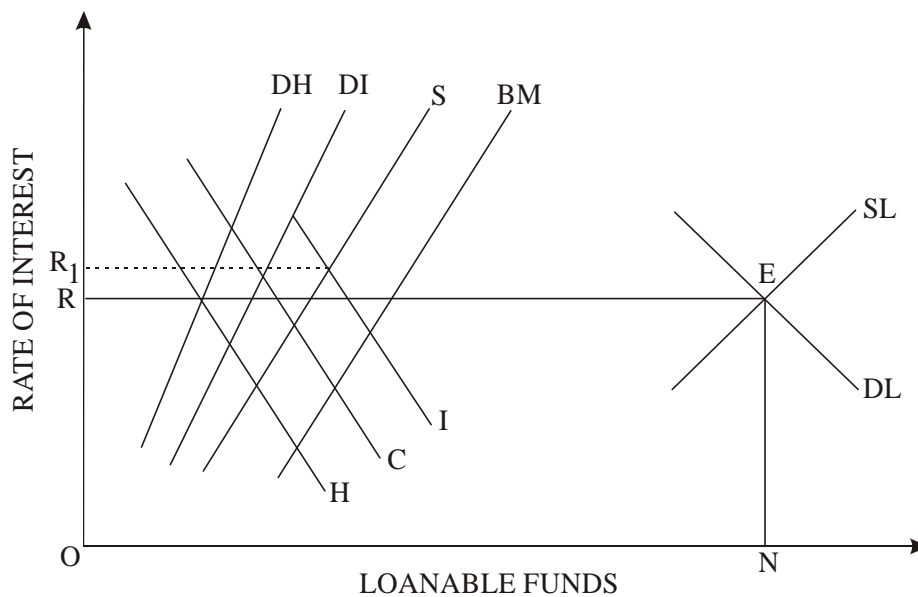
**DEMAND FOR LOANABLE FUNDS:** The demand for loanable funds comes mainly from three sources, investment, consumption and hoarding.

1. Individuals and households demand loanable funds when they wish to make purchases in excess of their current income and cash reserve. Consumers generally demand loanable funds for buying durable consumer goods. Low rate of interest encourages consumers to borrow more funds. Lastly, the demand for loanable funds comes from those who want to hold money, i.e., to satisfy liquidity preference.
2. The demand for loanable funds for investment purposes by business houses is the most important constituent of total demand. Business houses demand loanable funds upto the point at which expected net rate of return on capital goods becomes equal to the rate of interest. The demand for loanable funds for investment purposes is interest elastic and varies inversely with the rate of interest.
3. In case of, demand for hoardings, it is important to note that the same people who are hoarding cash balance are also the suppliers of loanable funds. The demand for hoarding is interest elastic and the curve slopes downward to the right. At a higher rate of interest people hoard less money.

In order to get the total demand for loanable funds, we have to add the three demands - investment demand, consumption demand and demand for hoarding. We get the aggregate of demand curve by the lateral summation of demands curves for the three purposes. This is shown in figure. The aggregate demand curve slopes downward from left to right.

Similarly, the total supply curve can be derived by the lateral summation of the four supply curves of loanable funds. The aggregate supply curve slopes upward indicating that the supply of loanable funds will increase with the rate of interest.

**DETERMINATION OF RATE OF INTEREST:** The rate of interest is determined by the equilibrium between total demand for loanable funds and total supply of such funds. The demand curve for loanable funds slopes downward whereas the supply curve of such funds slopes upward. The point of intersection between the two curves indicates the rate of interest that would finally prevail. Let us illustrate the determination of the rate of interest with the help of the figure - 2 given below.



In Fig. DH, DS, I curves (left hand side) shows the demand for hoarding, for dissaving and demand for investment respectively. All these curves slope downward from left to right indicating that with a fall in the rate of interest the demand for loanable funds will increase. By the lateral summation of these three curves, we get the total demand for loanable funds. Such total demand is shown by DL curve on the right hand side.

The total supply curve of loanable funds (SL) is obtained by the horizontal summation of DH, DS, S and BM curves. These curves slope upward indicating that more funds are supplied with every increase in the rate of interest. The total demand curve and total supply curve of loanable funds intersect each other at point E. The equilibrium rate of interest is OR.

**CRITICISM OF THE THEORY:** The loanable funds theory marks some improvement over the savings and investment theory. The theory takes into account money supply as one of the sources of loanable funds. It thus attempts integrate real and monetary factors in determining the rate of interest. However, the theory was criticised by Keynes and his followers.

1. According to Keynes, the role given to hoarding in the supply of money, according to Keynes, is wrong, Keynes thinks that hoarding cannot increase or decrease as long as the money supply remains constant. Money put into circulation must be held by some one as cash balances. As long as money supply remains the same, the cash balances in the beginning and at the end of a period will be the same. It means that greater hoarding by some one must lead to dishoarding by others.

2. The theory like the classical theory does not provide a determinate solution for the rate of interest unless other factors are known. Savings are an important source of loanable funds. The supply of loanable funds will therefore vary with the level of income. We cannot therefore know the rate of interest unless we know the level of income. We cannot know the level of income unless we know the rate of interest. This is because the rate of interest affects investments which in turn determines the level of income. If savings vary with the level of income, it follows that the supply schedule of loanable funds also varies with income making the rate of interest indeterminate.
3. The theory treats demand and supply schedules independent of each other. In fact, the supply schedule is dependent on the demand schedule for loanable funds. The supply schedule of loanable funds is composed of saving and credit money. Saving is a function of income and saving portion of the supply schedule of loanable funds will change its position with the variations in the level of disposable income. The level of income itself depends upon the level of investment and investment schedule is a part of the demand schedule for loanable funds. Thus the demand and supply schedules are interdependent.
4. The theory assumes full employment of resources. It is said that it is inapplicable to the situations of less than full employment.

There are people who think that loanable funds theory is a synthesis between classical theory and Keynes' liquidity preference theory. It takes into account savings and investment as in the classical theory and also the liquidity preference in Keynes' theory by incorporating hoarding and dishoarding.

**16.4.7 LIQUIDITY PREFERENCE THEORY:** Interest is regarded by Keynes as purely monetary phenomenon in the sense that the rate of interest is determined by the intersection of the demand for and the supply of money. The demand for liquidity together with the supply of money determines the interest rate. Interest is the reward paid for parting with liquidity, i.e. giving up the cash balances held.

Thus, the rate of interest, according to Keynes, is determined by the intersection of the supply schedule of money (the total quantity of money) and the demand schedule for money. The demand for money is a demand for liquidity- the liquidity preference schedule. The concept of liquidity preference implies the preference of the people to hold wealth in the form of liquid cash rather than in other non-liquid forms like bonds, securities, bills of exchange, land, gold, etc.

The demand for money, according to Keynes, is thus the demand to hold money - cash balances. The composite demand for money is divided into two principal demands, namely (i) demand for money as a medium of exchange and (ii) demand for money as a store of wealth. Now the demand for money as a medium of exchange is motivated by the necessities of transactions and precaution, while the demand for money as a store of wealth is prompted by speculation. Thus, there are three motives which lead to liquidity preference : (1) the transactions motive, (2) the speculative motive and (3) the precautionary motive.

In the liquidity function, however, it is postulated by Keynes that the demand for money is positively correlated with income - an increase in the level of incomes implies a rise in the demand for money, and vice versa. On the other hand, it is negatively correlated with the rate of interest - a rise in the rate of interest reduces the demand for money.

**LIQUIDITY - PREFERENCE SCHEDULE:** The liquidity-preference schedule expresses the functional relation between the amount of money demanded for all liquidity motives and the rate of interest. The demand for money or liquidity function can be conveniently explained diagrammatically (Fig. 3A and B).

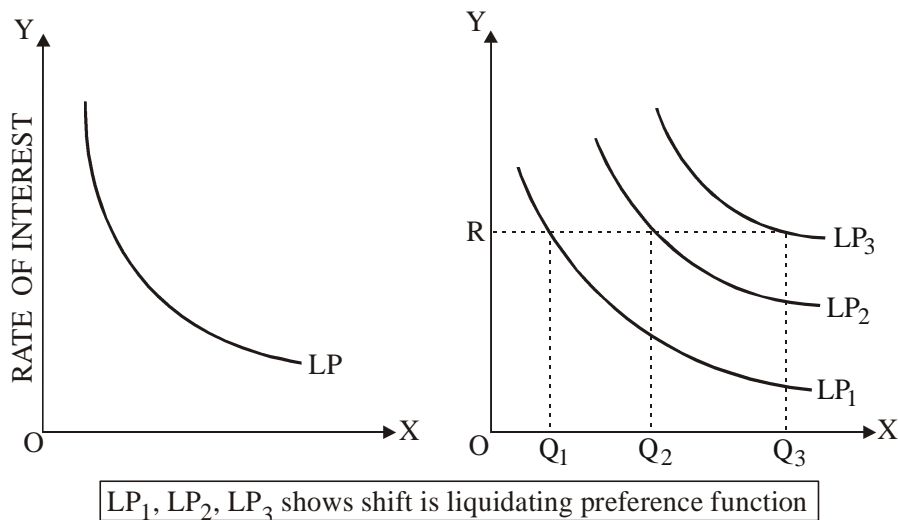
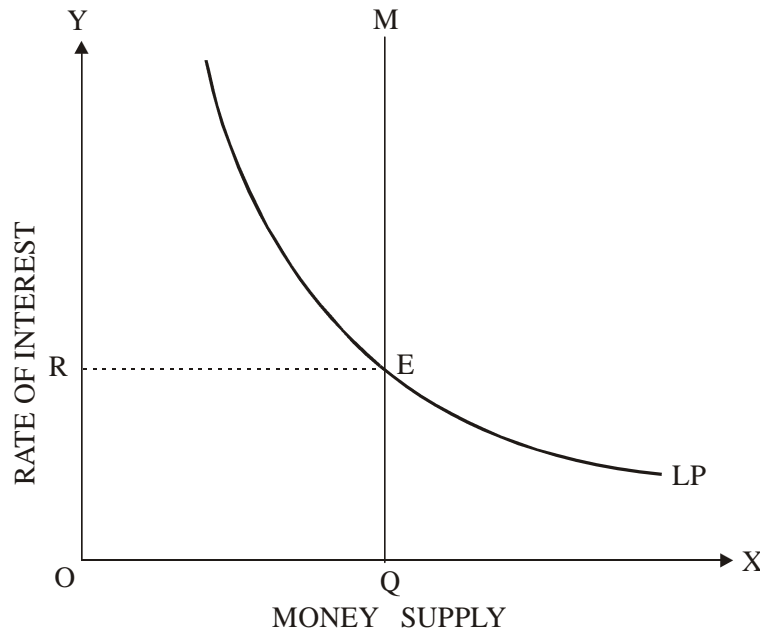


Fig. Liquidity Preference

The liquidity function is generally downward - sloping, indicating that the amount of money demanded for liquidity purposes is a decreasing function of the rate of interest. For, the community is ordinarily willing to hold more money at a low rate of interest than at a high rate of interest (Fig. 3A). Fig. 3(B) shows that when there is an upward shift of the entire liquidity function (as LP<sub>1</sub>, LP<sub>2</sub>, LP<sub>3</sub>) owing to changes in the level of income affecting the community's expectations regarding the advantages of holding liquid assets, the amount of money demanded for liquidity purposes increases from QQ<sub>1</sub> to QQ<sub>3</sub> at the prevailing rate of interest OR.

**DETERMINATION OF INTEREST RATE:** According to the liquidity preference theory, the equilibrium rate of interest is determined by the interaction between the liquidity preference function (the demand for money) and the supply of money, as presented in Fig. 4. In Fig. 4, OR is the equilibrium rate of interest. The theory further states that any change in the liquidity preference function (LP) or change in money supply or changes in both respectively cause changes in the rate of interest. Thus, as shown in Fig. if given the money supply, the liquidity preference curve (LP) shifts from LP<sub>1</sub> to LP<sub>2</sub> implying thereby an increase in demand for money; the equilibrium rate of interest also rises from R<sub>1</sub> to R<sub>2</sub>.

Fig. 4



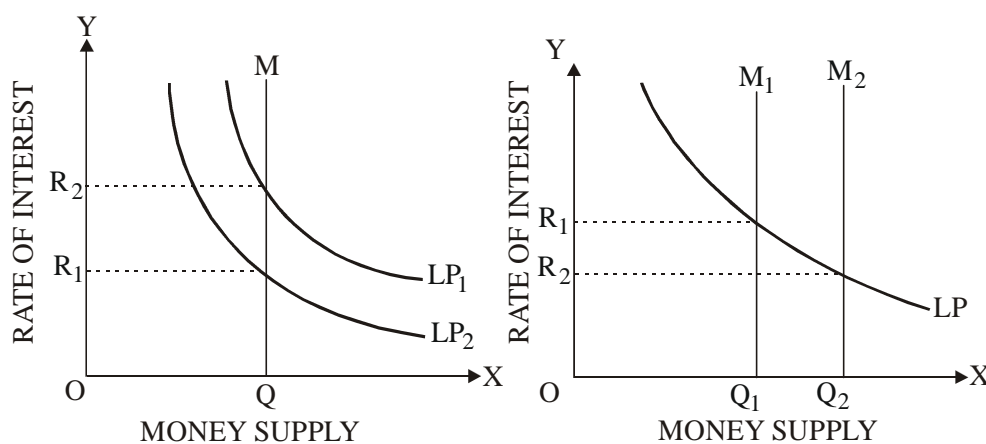
E : Equilibrium point. OR rate of interest. QQ is demand for money equals to supply of money.

**CRITICISMS:** The following major criticisms have been levelled against the liquidity preference theory of interest :

1. Prof. Hansen maintains that the Keynesian theory of interest rate, like the classical theory, is indeterminate. In the Keynesian version, the liquidity preference function will shift up or down with changes in the level of income. Particularly  $L_1$  being the function of income, we already know the income level. And to know the level of income, we must know the rate of interest. Thus, Keynes' criticism of the classical theory applies equally to his own theory.
2. Professor Hazlitt vehemently criticised the Keynesian theory of interest on the following grounds:
  - (i) According to Hazlitt, the Keynesian theory of interest appeared to be one-sided as it ignored real factors. Keynes considered interest to be a purely monetary phenomenon and refused to believe that real factors, like productivity and time-preference, had any influence on the rate of interest. Similarly, the classicists also were wrong in considering interest purely as a real phenomenon, and ignoring the monetary factors.
  - (ii) Keynes ignored the element of saving which he considered interest, a reward for parting with liquidity. Professor Jacob Viner points out that "without saving there can be no liquidity to surrender. The rate of interest is the return for saving without liquidity". As such, the element of saving cannot be ignored in any theory of interest.



- (iii) The liquidity-preference version is clearly wrong. It goes directly contrary to the facts that that it presumes to explain.
- (iv) The concept of liquidity preference, in the theory of interest, is vague and confusing. For instance, if a man holds funds in the form of time-deposits, he will be paid interest on them; therefore, he is getting both, i.e. interest-cum-liquidity.
- Keynes' liquidity-preference theory of interest furnishes too narrow an explanation of the rate of interest. In their view, the desire for liquidity - an important factor in determining the rate of interest arises not only from the three main motives (transactions, precautionary and speculative) mentioned by Keynes, but also from several other factors, not stressed by him.
  - Some critics opine that interest is the reward paid to the lender for the productivity of capital. As such, interest is paid because capital is productive.
  - According to Keynes, the rate of interest is independent of the demand for investment funds. Critics point out that this is unrealistic.
  - The Keynesian theory concentrates only on the short run and ignores the long period. But, for capital investment, it is a long-term rate than a short-term rate of interest which is really significant.



In left panel, when money demand curve shifts, rate of interest changes:  $R_1$  and  $R_2$ .  
 In right panel, when supply curve is shifted  $M_1$  to  $M_2$  interest rate falls from  $R_1$  to  $R_2$ .

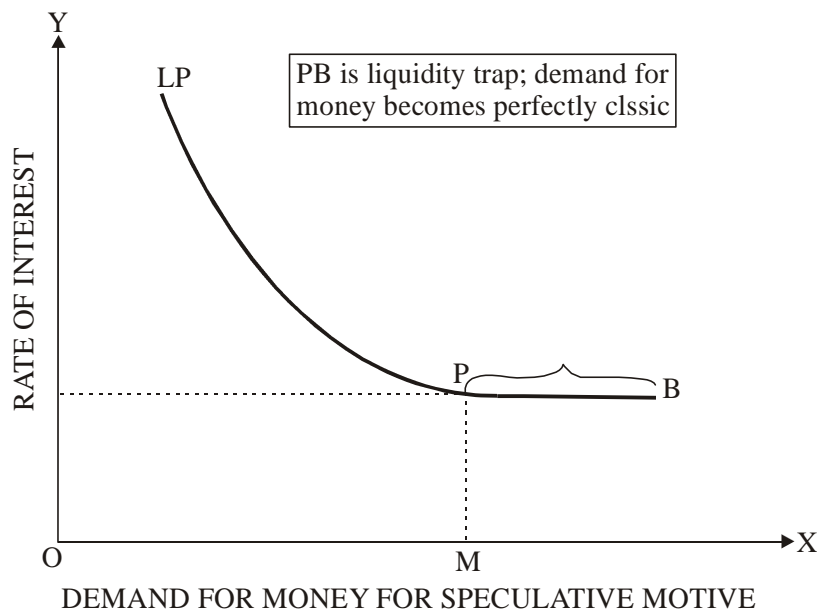
Fig. Change in Demand for Money

Fig. Changes in Supply of Money

**LIQUIDITY TRAP:** The liquidity preference curve slopes downwards from left to right indicating that at a higher rate of interest, people wish to hold less cash with them and at a lower rate of interest, they wish to hold more cash with them.

This may happen only up to a certain stage but beyond it, it may not hold good. Keynes was of the opinion that the rate of interest may not fall below certain minimum limit. Below a certain rate of interest, the demand for cash becomes infinite. Hence the

liquidity preference curve, indicating demand for money for speculative motive, becomes perfectly elastic after a certain point. According to Keynes, the rate of interest can never fall to zero. This situation is explained by Keynes through the concept of Liquidity trap. According to Keynes, when the rate of interest falls to a very low level, people will feel that it is better to keep liquid cash rather than securities and bonds. People may think that the expenses involved in buying the bonds and securities may not be compensated by the interest which they get by parting with liquidity. Let us study this concept with the help of Fig.



Upto the point P, as the rate of interest falls, the demand for money increases. Beyond that point, the demand becomes infinite. Hence beyond point P, the liquidity preference curve, is horizontal to the X - axis indicating that rate of interest cannot fall below this point even by increasing the quantity of money. In Fig. the portion PB on the liquidity preference curve indicates liquidity trap. According to Keynes, the rate of interest cannot fall below the rate determined by the liquid trap.

## 16.5 CONCLUSIONS:

Rate of interest is the percent of interest on the principal calculated for one year. A borrower pays interest because by using the funds productively, he expects to obtain a return higher than the interest rate. Keynes defines interest as the premium offered to people to part with their liquid funds. The most important theories of interest are Abstinence Theory, Austrian Theory, Fisher Theory, Marginal Productivity Theory and Liquidity Preference Theory.

## 16.6 POINTS TO BE REMEMBER:

1. Gross interest includes pure interest, premium against risk, compensation for inconvenience and incentive for management of accounts.

2. Net interest is pure interest.
3. Fisher's Theory of interest emphasis 'time preference'.
4. The classical theory of interest explains that the forces of supply and demand determine interest.
5. The marginal productivity theory explains that interest is paid because capital is productive.
6. Keynes says that interest is a purely monetary phenomenon and a reward for parting with liquidity for a specified period.

### 16.7 MODEL QUESTIONS:

1. Explain the loanable funds theory of interest.
2. Explain the liquidity preference theory of interest.
3. Explain IS - LM Theory of interest.

#### Short:

1. Explain classical theory of interest
2. Time Preference Theory
3. Gross Interest and Net Interest
4. Marginal productivity theory of interest
5. liquidity trap
6. Need for interest payment
7. Abstinence or waiting theory
8. Austrian theory

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## **Lesson : 17**

# **PROFITS**

### **17.0 AIMS AND OBJECTIVES:**

The main aim of this lesson is to analyse various profit theories and to examine Gross and Net Profits. After completion of this chapter student can understand the following:

- \* What is Profit.
- \* Differences between Net and Gross Profits.
- \* Various Profit Theories.

### **CONTENTS:**

- 17.0 Aims and Objectives**
- 17.1 Introduction**
- 17.2 Meaning of Profit**
- 17.3 Gross Profit - Net Profit**
- 17.4 Profit as Rent of Ability**
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- 17.6 Conclusions**
- 17.7 Points to Remember**
- 17.8 Model Questions**
- 17.9 References**

## 17.1 INTRODUCTION:

The basic objective of a business firm is to make profits. Infact, clasical and neo-classical economists assumed that firms aim to maximise their profits. Profit maximisation was considered to be the main objective of a business firm. Modern economists contend this assumption and have evolved several alternative objectives such as sales maximisation and satisficing theories. There may be controversies regarding profit maximisation and satisficing theories. There may be controversies regarding profit maximisation as an objective but no one can deny the importance of profit as an objective. Whatever be the other objectives of a business firm, profit is certainly one of the primary objectives.

Profit is the acid test and main indicator of the performance of a firm. The survival expansion, growth and proprosperity of a business firm depend upon the profits it earns every year. A firm can maximise its value in the long run only when it is capable of unfailingly earning a satisfactory level of profits every year. But unlike other factor incomes such as rent and wages, profits are surrounded by controversies. There is confusion regarding the nature of profits. There is conflict regarding the measurement of profits. There is a mystery regarding the source of profits - how profits arise? Several theories of profits have been evolved to explain the sources of profits.

## 17.2 MEANING OF PROFIT:

You are all familiar with the term 'Profit'. It is quite a common-place word, but different people use it in different senses. In Economics, however, the term has a precise meaning. Profit may be defined as the net income of a business after all the other costs - rent, wages and interest etc., - have been deducted from the total income. Profits are, therefore, uncertain and vary from person to person and from firm to firm. They may become zero, when costs are equal to income, and if the costs are higher, profits may actually be concerted into loss.

Entrepreneur's Reward. Pure profit is the reward of entrepreneurial functions. It is what an entrepreneur gets purely as an entrepreneur. What he gets as a landlord, manager or capitalist is deducted from the total profits. Hence, Pure Profit is an amount which accrues to the entrepreneur for assuming the risk inseparable from business. It is a reward for assuming the final responsibility, a responsibility which cannot be shifted to anybody else.

## 17.3 GROSS PROFIT - NET PROFIT:

We ar enow in a position to analyse gross profits. They are the difference between total sale proceeds and total expenses over a year and include the following besides net profit :-

- (A) **RENT OF THE EMPLOYER'S LAND OR PREMISES:** Had similar premises been taken on rent, the amount would have been added to costs. An equal figure should be deducted from gross profits to find out net profit.
- (B) **INTEREST ON ENTREPRENEUR'S CAPITAL:** The interest on borrowed capital is usually deducted before profits are worked out. Hence the interest which the owner's own capital would have earned elsewhere should be taken out before we can determine net profits.

- (C) **WAGES OF MANAGEMENT:** The entrepreneur may be himself providing the services of management. If he had been employed elsewhere he would have earned some wages. An equal amount has, therefore, to be deducted before net profits can be discovered.
- (D) **MAINTENANCE CHARGES:** It is but reasonable that capital should be maintained intact. Worn-out pieces should be replaced at the proper time. To do this, it is necessary to maintain a depreciation fund. All expenses for this purpose should be deducted out of gross profits. If this is not done, profits will appear to be large for a few years but one day the business will fail, because no funds will be available to replace fixed assets like machinery.
- (E) **NET PROFITS:** If we deduct from gross profits the above items, we shall get pure or net profits. The entrepreneur is entitled to the following different kinds of payments which form a part of his net profits :

**REWARD FOR RISK-TAKING:** Every business faces some risk of loss. But the risk of loss from market-fluctuations has to be borne by the entrepreneur himself and he will shoulder it only when he has hopes to be paid for it.

**REWARD DUE TO A MONOPOLISTIC POSITION:** A particular entrepreneur may earn extra income due to his control in the market over the entire supply of the commodity he produces.

**REWARD FOR BETTER BARGAINING:** If a business man is skilful in making bargains, he earns more.

**WINDFALLS:** A sudden change in market conditions may bring in a large gain just by chance. For instance, manufacturers of arms and ammunitions may earn much, if war breaks out.

#### 17.4 PROFIT AS RENT OF ABILITY:

As rent of land is the result of the superior fertility and location possessed by a given plot of land over the marginal land, so profit is the reward enjoyed by an entrepreneur for his superior talents or ability over and above those possessed by the marginal entrepreneur. Some economists have suggested that profits are not different from the rent of superior ability which one entrepreneur commands over the marginal entrepreneur. This theory is generally associated with the name of Francis Walker, the American economist, but it was originally suggested by Nassau Senior and J.S. Mill. This treatment of profit as a source of surplus revenue according to the superior or intra-marginal entrepreneur is similar to Ricardo's treatment of rent as a source of surplus-earning going to the pockets of the owners of the superior (intra-marginal) land.

Just as there are different grades of land, so also there are different grades of entrepreneurs. Those firms which are run by marginal entrepreneurs (or efficient entrepreneurs who are just able to keep their heads above water by avoiding losses) yield no profit at all beyond remunerating capital and labour at normal rate and leaving only enough for the entrepreneur to prevent him from abandoning production altogether. The case of the firm managed by marginal entrepreneurs is analogous to the marginal or no-rent land. But there are other firms which are

looked after by better entrepreneurs possessing superior abilities and which yield profit in the sense of surplus after rewarding all factors of production including the entrepreneur. By imperceptible gradation we pass from the firms managed by entrepreneurs of mediocre abilities to more prosperous ones and finally reach those which yield immense profits since they are managed by entrepreneurs commanding extraordinary organising ability. The case of such firms is similar to that of best grade lands. Other things being equal, the existence of higher profit in one industry as compared with another implies the greater capacity of the entrepreneur in the former case than in the latter. Thus, superior income is pure surplus like the rent of land.

It is true that both profit and rent belong to the genus "surplus", since mathematically both are differences between income and cost. However, they cannot be regarded as identical in all respects. First of all, the system of joint-stock enterprise has become more important in the modern economic world. The manner in which dividends are distributed among the shareholders is in no way related to the latter's ability. In fact the dull and the less able may secure more dividends if they possess more shares entitling them to larger profits.

Secondly, while rent is a known and expected surplus, profit is unknown and emerges as a result of our inability to forecast correctly future events. Profit is due to uncertainty regarding the future. For example, a producer's profit is a rent-surplus when the producer equalises his marginal cost with his marginal revenue on the basis of his knowledge of facts which turn out to be quite correct. But profit surplus arises as different from rent surplus - when the income that the owner actually receives turns out to be greater than what he expected it to be. Thus any surplus above cost is rent or profit according as it is one that was foreseen and expected or not. In the absence of uncertainty with knowledge about the future being perfect, all surplus in whatever manner earned would be expected and hence would be analogous to rent in the true economic sense of the word. On the other hand, with surplus emerging from uncertainty and unpredictable chances would have nothing to do with rent and most of the surplus called profit is of this type.

Thirdly, rent can never be negative though in the extreme case it can be zero. However, profit can be both negative and positive. Negative profits are known as losses.

## 17.5 PROFIT THEORIES:

**17.5.1 MARGINAL PRODUCTIVITY THEORY OF WAGES:** The general Marginal Productivity Theory of distribution has been explained in an earlier chapter. According to that theory, the reward of a factor of production is determined by its marginal productivity. This applies equally well to entrepreneurship. The Economists such as Edgeworth, Chapman, Stigler and recently Stonier and Hague have explained the determination of profit with the help of marginal productivity theory.

As we know, the demand curve for any factor of production is the same thing as its Marginal Revenue Productivity (MRP) curve. This applies to entrepreneurship as well. The MRP curve of entrepreneurship is also its demand curve. The demand for entrepreneurs will be represented by the MRP curve of entrepreneurship. The supply of entrepreneurs will depend upon how much they can earn in the industry or on their revenue productivity.

Let us first study the shape of the MRP curve of entrepreneurship. While constructing the MRP curve of entrepreneurship, we are confronted with one major difficulty. So far as

land, labour and capital are concerned, it is easy to calculate their marginal revenue productivity, or to construct their marginal revenue productivity curve. For example if we have to calculate the marginal revenue productivity of labour, it would not present any difficulty. We can easily find out the marginal revenue productivity of labour either by increasing or by reducing the number of workers by one. If the present number of workers, say 50, are producing 5,000 units of the product and 51 workers produce 5,010 units of output, then the marginal physical productivity of labour would be 10 units of output. It could later be converted into marginal revenue productivity by evaluating the marginal physical product at the ruling price. But it is not possible to calculate the marginal revenue productivity of entrepreneurship for a single firm. The reason is obvious. There is only one entrepreneur in a firm. It can neither be made two nor could it be reduced to half. Since there can be only one entrepreneur in a firm, it is not possible to find the marginal revenue productivity of entrepreneurship through the use of marginal analysis, as it could be done in the case of other factors like land, labour and capital. This is the fundamental difficulty, which arises in the case of entrepreneurship.

But, while it is not possible to calculate the marginal revenue productivity of entrepreneurship of a single firm, it is not difficult to do so for an industry. The number of entrepreneurs in an industry can be varied so as to calculate the marginal revenue productivity of entrepreneurship in the industry. The marginal productivity theory of profit, though better in some respects than the earlier theories, is not wholly satisfactory. The main drawback of this theory is the difficulty of calculating the marginal revenue productivity of entrepreneurship to a single firm, as pointed out above. The marginal productivity theory of profit is also subject to several criticisms. The main criticisms are as follows :

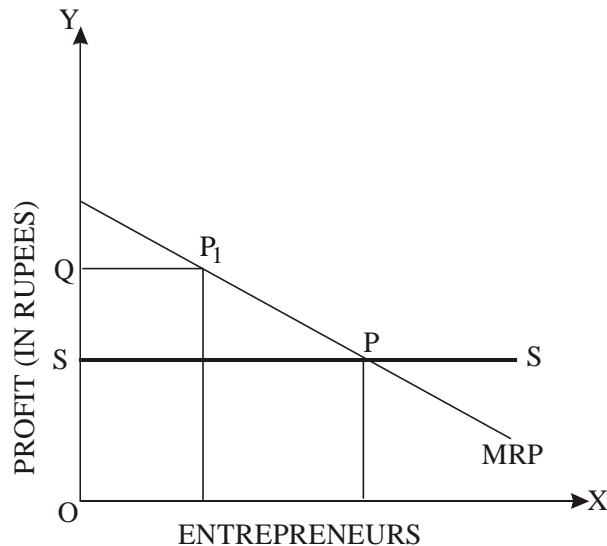
Firstly, since there can be only one entrepreneur in a firm and hence it is not possible to find out the marginal productivity of the entrepreneur. Secondly, this theory is based on the unrealistic assumption of the homogeneity of entrepreneurs in an industry. But in actual practice, the entrepreneurs differs widely as to their skill, efficiency, and knowledge etc. Thirdly, the theory fails to explain why entrepreneurs sometimes earn windfall profits, chance profits or even monopoly profits. Fourthly, since entrepreneurs differ in ability and efficiency all cannot earn only normal profits. Entrepreneurs with greater skill and efficiency earn more than normal profits.

**17.5.2 MODERN THEORY OF PROFITS:** According to this theory profit is determined by the demand and supply of entrepreneurship. The demand for entrepreneurs depends upon : (i) the level of industrial development in the economy; (ii) the element of uncertainty in the industry; (iii) the scale of production; and (iv) the marginal productivity of entrepreneurship. But the marginal revenue productivity of entrepreneurship is the most important factor in influencing the demand for entrepreneurs.

The supply of entrepreneurs depends upon a number of factors, viz., (i) the availability of capital; (ii) the existence of managerial and technical personnel; (iii) the size of population; (iv) the number of entrepreneurs, (v) the element of uncertainty in the industry; (vi) the distribution of income; (vii) the condition of economy under the assumption of perfect competition, all entrepreneurs in the industry being homogeneous and of equal efficiency, the supply of entrepreneurship is infinitely elastic to the industry in the long-run.



Thus the supply curve to entrepreneurship will be horizontal straight line parallel to the X - axis.



As shown in the diagram, MRP curve shows the marginal revenue productivity of entrepreneurship to an industry. As in other cases, it also slopes downwards to the right. The reason is obvious. The larger the number of entrepreneurs in an industry, the smaller will be the level of profit per entrepreneur. SS curve shows the supply of entrepreneurs in that industry. Since we have assumed that all the entrepreneurs are equally efficient, they must earn an equal amount of profit (shown by Rs. OS in the diagram). This profit, Rs. OS, represents the transfer earnings of the entrepreneur. In other words, Rs. OS represents the supply price of the entrepreneurs. Since all the entrepreneurs are equally efficient, their supply price is the same, namely, Rs. OS. That is why the supply curve of entrepreneurship is a horizontal straight line.

We have now obtained two curves - MRP curve representing the demand for entrepreneurs, and SS curve indicating the supply of entrepreneurs. The two curves intersect each other at the point P. PM (or OS) represents the average level of profit in the industry. This level of profit will come to be established in the industry in the long period under conditions of perfect competition. The number of entrepreneurs demanded is equal to the number of entrepreneurs supplied at the OS level of profit. Since OS level of profit represents the transfer earnings of all the entrepreneurs, the entrepreneurs in the industry are all earning normal profits. In the long run, all the entrepreneurs would be earning normal profits under conditions of perfect competition. In the short period, however, the entrepreneurs could earn abnormal profits as shown in the short period is shown as  $OM_1$  and the profit as OQ. It is obvious that OQ represents abnormal profit to the extent of QS. This abnormal profit would, however, be competed away in the long period when, attracted by the existence of abnormal profits, new firms join the industry. Thus, in the long period under conditions of perfect competition the entrepreneurs earn only normal profits.

There are two reasons why the profits of an entrepreneur in the long period, under perfect competition, cannot be supernormal. Firstly, on account of severe competition among the entrepreneurs, the price of the product becomes equal to the average and marginal cost of production. Secondly, the price paid by the entrepreneur to the various factors of production, such as, land, labour, capital, is equal to their average and marginal productivity. Thus, neither by selling the commodity, nor by engaging the factors of production, the entrepreneur is in a position to secure super-normal profit in the long run.

But the position is different under imperfect competition. Under imperfect competition, and entrepreneur may earn supernormal profit not only in the short, but also in the long period. He is in a position to sell his product at a price much above his average cost of production, and thus earn supernormal profit for himself. Secondly, the entrepreneur under imperfect competition is also in a position to pay the factors of production at a rate much less than their average and marginal productivity. Thus, through monopoly on the commodity front and monopolistic competition on the factor front, the entrepreneur succeeds in earning supernormal profit.

Entrepreneurs earn super normal profits in the long run because the present day world is dynamic and changing, uncertainty prevails in the production and sale of products and competition is seldom perfect. Monopoly profits arise from monopolistic tendencies in pricing or from a process of dynamic change in the presence of uncertainties in which long-run equilibrium is not attained.

Some economists, especially Prof. M Kalecki, have asserted that the greater the size of profits made by the firm. However, if the costs are higher and the demand or revenue is less, even a monopoly firm will be incurring losses. But generally through the devices of advertisement, differentiation and other sales promotion activities on the one hand and underpaying various factors of production on the other hand, the firms enjoying varying degrees of monopoly power make sure that the demand for the product remains above the marginal cost of production yielding a good deal of profits.

**17.5.3 SCHUMPETER'S INNOVATIONS THEORY OF PROFITS:** Successful innovations as important dynamic changes and as source of profit have been, in brief, explained above. But since innovations have been singled out as a very important factor responsible for the occurrence of profits to the entrepreneurs it requires to be dealt with separately. It has been held by Joseph Schumpeter that the main function of the entrepreneur is to introduce innovations in the economy and profits are reward for his performing this function. Now, what is innovation ? Innovation, as used by Schumpeter, has a very wide connotation. Any new measure or policy adopted by an entrepreneur to reduce his cost of production or to increase the demand for his product is an innovation. Thus innovations can be divided into two categories.

First type of innovations are those which reduce cost of production, or in other words, which change the production functions. In this first type of innovations are included the introduction of a new machinery, new and cheaper technique or process of production, utilisation of a new source of raw material, a new and better method of organising the firm, etc. Second type of innovations are those which increase the demand for the product,

or in other words, which change the demand or utility function. In this category are included the introduction of a new product, a new variety or design of the product, a new and superior method of advertisement, discovery of new markets etc. If an innovation proves successful, that is, if it achieves its aim of either reducing the cost of production or enhancing the demand for a product, it will give rise to profit. Profits emerge because due to successful innovations either cost falls below the prevailing price of the product or the entrepreneur is able to sell more and at a better price than before. It should be noted that profits accrue not to him who conceives innovation, nor to him who finances it but to him who introduces it. Further, when ever any new innovation is to be introduced, it always calls for a new combination of factors or reallocation of resources.

It is here worth mentioning that profits caused by a particular innovation are only temporary and tend to be competed away as others imitate and also adopt that. An innovation ceases to be new or novel, when others also come to know of it and adopt it. When an entrepreneur introduces a new innovation, he is first in a monopoly position, for the new innovation is confined to him only. He therefore makes large profits. When after some time others also adopt in order to get a share, profits will disappear. If the law allows and the entrepreneur is able to get his new innovation e.g., new product patented, then he will continue to earn profits.

But in a competitive economy and without patent laws, the existing competitors or the new firms will soon adopt any successful innovation and profits would be eliminated. But in a competitive and progressive economy the entrepreneurs always continue to introduce new innovations and thus profits continue emerging out of them. Thus Prof. Stigler writes "Unless one can construct a permanent monopoly, such profits as are realised by successful innovations are essentially transitional and will be eliminated by the attempts of other firms to share them. But these profits may exist for a considerable time because of the ignorance of other firms of their existence or because of the time required for the entry of new firms. More important, the successful innovator can continuously seek new disequilibrium profits since the horizon of conceivable innovations is unlimited".

We have seen above that innovations are important source of profits. Obtaining profits is a necessary incentive for the entrepreneurs to conceive and introduce innovations which help the economic development of the country. Since innovations if successful, yield profits and profits is also the motive to introduce innovations, profits are both the cause and effect of innovations.

**17.5.4 RISK THEORY OF PROFITS:** This theory was propounded by an American economist, Prof. Hawley, in 1907. According to him, profit is the reward for risk-taking in business. As is well known, every business involves some risk or the other. Since the entrepreneur undertakes the risk, he becomes entitled to receive profits. If the entrepreneur does not receive the reward, he will not be prepared to undertake the risk. Thus, higher the risk, the greater is the possibility of profit. It should be remembered that this profit of the entrepreneur exceeds the ordinary return on capital. If it is less than the ordinary return on capital, the entrepreneur would not be prepared to undertake the risk.

Hawley's risk theory of profit has been criticized on the following grounds : Firstly, as pointed out by Prof. Carver, profit accrues to the entrepreneur not because he undertakes the risk, but because he avoids the risk, with the use of his business ability. Profit is the reward of risk-avoidance rather than risk-taking.

Secondly, this theory considers profit as the reward for risk-bearing. But, according to the critics, there is no direct relationship between profit and risk-taking. It is not necessary that if the risk is high, the profit would correspondingly be high. In reality, profit is influenced by several factors in addition to risk-bearing.

Thirdly, profit does not arise on account of all types of risks as pointed out by Prof. Knight. According to Prof. Knight, risks are of two types - (i) foreseeable risk, and (ii) unforeseeable risk. The former risk is that risk which can be foreseen and provided against through insurance. For example, the risk of fire in a factory is a foreseeable risk and can be got covered through fire insurance. The premium so paid for fire insurance can be included in the cost of production. Since the entrepreneur can foresee such a risk, and makes provision against it through insurance, it ceases to be risk. An insurable risk according to Prof. Knight, is in reality, no risk. Profit cannot arise due to insurable risk.

The unforeseeable risk, on the contrary, is one which cannot be foreseen by the entrepreneur and as such, cannot be got covered through insurance. For example, the risk of commercial loss in business is an unforeseeable risk and, as such, an uninsurable risk. According to Prof. Knight, profit is due to unforeseeable risk or uncertainty - bearing.

The risk theory of profit is not considered satisfactory in view of the above criticisms. The main drawback of this theory is that it considers risk as the sole determinant of profit. The truth, however, is that there are other determinants of profit also in addition to risk. Since risk is an important determinant of profit, the theory is not altogether devoid of truth.

**17.5.5 UNCERTAINTY - BEARING THEORY OF PROFIT:** This theory was first advocated by Prof. Knight. According to Prof. Knight, profit is the reward of uncertainty-bearing. Profit accrues to the entrepreneur, because he bears uncertainty in business. Profit, according to Prof. Knight, is due to non-insurable risk (or, unforeseeable risk). Some of the non-insurable risks which arise in modern business are comparative risk, technical risk, risk of Government intervention and business cycle risk.

- 1. COMPETITIVE RISK:** Certain new firm or firms might enter into the industry, and the existing firm may have to face serious competition from them. This will inevitably lower down the profit of the firm in question.
- 2. TECHNICAL RISK:** Various new techniques of production might come into vogue, or some new type of machinery might be evolved. The existing firm may not be in a position to adopt or incorporate these changes into its organizational set-up, and may, thus, suffer losses in competition with other firms.
- 3. RISK OF GOVERNMENT INTERVENTION:** In course of time, the government might, in course of time, intervene into the affairs of the industry by fixing the maximum price of the product. This might ultimately reduce the profits of the firm.

4. **BUSINESS CYCLE RISK:** The advent of business recession or even depression might result in reduced consumer purchasing power, and consequently less demand for the product of the firm in question.

Since these risks cannot be foreseen and statistically measured, no insurance company will be prepared to provide cover against them. Hence, these are non-insurable risks or uncertainty - bearing. According to Prof. Knight there is a direct relationship between profit and uncertainty - bearing. Greater the uncertainty-bearing, the higher the level of profit. Uncertainty-bearing has become so important in business these days that it has begun to be looked upon as a separate factor of production. Like other factors, it has its supply price. In other words, the entrepreneur undertakes uncertainty bearing in the expectation of earning a certain level of profit. Thus, according to this theory, profit is due not to risk-taking, but to uncertainty-bearing.

This theory has been criticized on the following grounds:

Firstly, according to this theory, profit is the reward for uncertainty-bearing. But the critics point out that sometimes an entrepreneur earns no profit despite uncertainty-bearing. He may have borne uncertainty and yet earned no profits. Secondly, according to the critics, there are also other causes of profit in addition to uncertainty-bearing. Uncertainty-bearing is not the sole determinant of profit. The profit that an entrepreneur receives is also the reward for other functions performed by him, such as, initiating, co-ordinating, bargaining, etc. Thirdly, this theory considers uncertainty-bearing as an independent factor of production. According to the critics, uncertainty-bearing cannot be regarded as a separate factor of production. If an entrepreneur is able to earn profit in an atmosphere of uncertainty on the basis of his business ability, it does not mean that his profit is due to uncertainty-bearing. On the contrary, it is pointed out by the critics, his profit is due to his business ability. Thus, uncertainty-bearing cannot be considered as an independent factor of production nor can it be considered as the sole determinant of profit.

The uncertainty-bearing theory, like the earlier theories, does not furnish a comprehensive explanation of profit, and, as such, it is inadequate. Nevertheless, it does contain an element of truth in so far as uncertainty-bearing is an important determinant of profit.

- 17.5.6 DYNAMIC THEORY OF PROFIT:** This theory was first propounded by the American economist, J.B. Clark, who defined profit as the excess of the prices of goods over their costs. According to him, profit arises due to dynamic changes in society or due to the fact that society is dynamic.

Profit cannot arise in a static society. In such a society, the element of time is non-existent. As such, there is no uncertainty of any kind. The economic activities of the last year would be repeated this year without any change. There is, therefore, no risk of any kind for an entrepreneur in a static society. The prices of the goods in such a society would be equal to their costs of production. There would be no profit for the entrepreneur. The entrepreneur would only get wages for his labour and interest on his capital. If the price of the commodity is higher than the cost of production, competition would soon force

it down to the level of the cost of production so that there cannot be a gap between price and cost of production in a static society. It is, however, possible that competition may take some time to work itself out, and during this period price may stand higher than the cost of production. But the profit earned by the entrepreneur during this period would be frictional, not normal profit. Thus, according to Clark, profit in static society either does not arise or if it does arise, it is frictional profit.

But society, as we know, is dynamic. It has always been dynamic. It is changing every minute, every second. Several changes are taking place in a dynamic society. According to Clark, five main changes are constantly taking place in society - (i) changes in the size of the population, (ii) changes in the supply of capital, (iii) changes in production techniques, (iv) changes in the forms of industrial organization, and (v) changes in human wants. Profit arises in a dynamic society on account of these changes. These changes on account of these changes. These changes affect in the main the demand for and supply of commodities, and thus lead to the emergence of profit. These are, of course general dynamic changes. But sometimes dynamic changes may be introduced deliberately by the individual firms themselves. For example, a firm, by improving its production technique, may succeed in cutting down its cost and thereby increasing its profit. In short, it is the operation of these dynamic changes which leads to the emergence of profit. Profit, according to Clark, belongs to economic dynamics, not economic statistics.

Dynamic theory of profit has been criticised on the following grounds:

Firstly, as pointed out by Prof. Knight, profit is not due to all sorts of changes taking place in dynamic society. According to him, two types of changes take place in society (i) Foreseeable changes - such changes can be foreseen by the entrepreneur, and he can make provision for them in his scheme of things. The expenditure involved in making provision for such changes can be included in the cost of production. Profit, thus, cannot arise due to foreseeable changes. (ii) Unforeseeable changes - such changes cannot be foreseen by the entrepreneur, and consequently, he cannot make provision for them. Profit, according to Clark, is due to unforeseeable changes.

Secondly, Clark has rejected the risk theory of profit on the ground that the risk is borne by the capitalist and not by the entrepreneur. This is contrary to facts. If the risk was to be borne by the capitalist, then the capitalist would be entrepreneur, and the 'entrepreneur' would simply be his agent or manager. But, as we know, it is entrepreneur, not the capitalist, who takes decisions and also undertakes the risk. Risk, therefore, is an important element in profit, and the risk theory of profit cannot be summarily rejected as has been done by Clark. Thirdly, it is pointed out by the critics that the so-called economic dynamics of Clark is, in reality, comparative statics. Economic dynamics refers to continuous change. But the 'dynamic change' of Clark soon exhausts itself, and the profit accruing on account of this change is in reality, frictional profit, not profit proper. Fourthly, according to Prof. Taussig, the dynamic theory has created an unnecessary and artificial distinction between 'profits' and 'wages of management'.

## 17.6 CONCLUSIONS:

The primary objective of business firm is to make profits. Profit is the **acid test** and chief indicator of the performance of Business firm. The survival, expansion, growth and prosperity of a business firm depend on the profits earned year after year. The marginal productivity themes, modern themes, innovations themes, risk and uncertainty themes etc. tried determine profit.

## 17.7 POINTS TO REMEMBER:

1. A firm can maximize its value in the long run only when it is capable of unfaicingly earned satistatns level of profits, year after.
2. According to Risk and uncertainty theories, profit is the price paid by society for assuming risks is business.
3. Dynamic reveals that profit is the excess of prices of commodities our their costs.

## 17.8 MODEL QUESTIONS:

### I LONG ANSWERS:

1. Explain Dynamic Theory of Profits.
2. Write a short note on Risk Theory of Profits.
3. Examine the uncertainty theory of profits.

### II SHORT ANSWERS:

1. Innovations.
2. Gross and Net Profits.

## 17.9 REFERENCES:

1. Seligman : Economics
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3. Dwett K.K. : Advanced Economic Theory

## **Lesson : 18**

# **TRADE CYCLES**

### **18.0 AIMS AND OBJECTIVES:**

The concept of Trade Cycles ? Business Cycles is a examined in this chapters. By the completion of this chapter you can understand the following:

- \* Definition of Trade Cycles
- \* Types of Trade Cycles
- \* Reasons for Trade Cycles
- \* Features of Trade Cycles
- \* Stages of Trade Cycles
- \* Theories of Trade Cycles
- \* Measures of Trade Cycles

### **CONTENTS:**

- 18.0 Aims and Objectives**
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- 18.10 Conclusions**
- 18.11 Points to Remember**
- 18.12 Model Questions**
- 18.13 Suggested References**



## 18.1 INTRODUCTION:

It is but natural for any business or economy to have ups and downs. The history of different economies, developed and developing, reveal that economy did not grow in a steady way. Every economy is bound to have healthy and prosperous business conditions offering innumerable jobs, providing special incentives such as over-time, bonus and large profits. This may be followed by a recession leading to dull business environment that is associated with job cuts, closure of factories, with-drawl of all incentives or even financial crisis. It is very difficult to get through this stage. These fluctuations are called *business cycles*. Business cycles are also called *trade cycles*. **Lord Keynes** articulated the concept of business cycles for the first time. This chapter explains the concept of business cycles, their phases, causes and consequences apart from the measures to solve the problems resulting from business cycles.

## 18.2 DEFINITION OF BUSINESS CYCLE OR TRADE CYCLE:

**Lord Keynes**, in his classic work *Treatise on Money*, explains the concept of trade cycle : "A trade cycle is composed of periods of good trade characterised by rising prices and low unemployment percentages, altering with periods of bad trade characterised by falling prices and high unemployment percentage". The period of good trade or upturn in the economy is called *boom* and the period of bad trade or downturn is called *recession* or *depression*.

**Samuelson** defines business cycle as "a swing in total national output, income, and employment, usually lasting for a period of two to 10 years, marked by widespread expansion or contraction in most sectors of the economy".

## 18.3 CAUSES OF TRADE CYCLES:

A business cycle is a complex phenomenon which embraces the entire economic system. It can scarcely be traced to any single cause, Normally, a business cycle is caused and conditioned by a number of factors, both exogenous and endogenous. Various theories have been expounded by different economists to explain the cause of a trade cycle, the symptoms of which are alternating periods of prosperity and depression. Different explanations stressing one or a few factors at a time have been advanced by economists.

Without going into the details of these theories, we may enlist the following internal and external factors causing business cycles.

Trade cycles are associated with fluctuations in economic activity. Due to changes in climatic conditions or seasons trade cycles may occur at regular intervals. Sometimes natural factors in economic or business activity. These may be irregular and non-recurrent.

Trade cycles refer to the fluctuations in average economic activity especially in the levels of national; income, employment, output and general price level. These changes were occurring in a rhythmical manner in the capitalist world with full play of market forces of with full play of market forces of demand and supply. Government or State Controls did not interfere with the economic activities.

In the words of J.N. Keynes - "A trade cycle is composed to periods of good trade characterized by rising prices and low unemployment percentages, altering with periods of bad trade characterised by falling prices and high unemployment percentages."

## 18.4 FEATURES OF TRADE CYCLES:

The following are the characteristics of business cycles:

- (I) **CYCLICAL MOVEMENTS:** When excess movement in one direction, say depression, tends to bring into operation not only its remedy but also a stimulus to an excess movement in the other direction, say boom, the movement is said to be cyclical. It is like the movement of a pendulum. The movement in one direction tends to automatically generate a movement in the opposite direction. Periods of prosperity in the economy sow the seeds of depression also.
- (II) **INTERNATIONAL IN NATURE:** It is very likely that boom in the economy of one country leads to boom in another. Different countries are linked together through international trade and foreign exchange. This implies that prosperity in one country contributes to prosperity in other countries also. Similarly, conditions of depression in a particular country may be due to recession in neighbouring countries. Thus, business cycles are truly international in character.
- (III) **VARYING DEGREE OF IMPACT:** Since periods of business cycles are more likely to be different, they tend to vary in the degree of their impact on an economy. Business cycles may affect different industries in an economy in varying degrees. For instance, during boom conditions, people tend to spend more on construction of houses than otherwise. This leads to an increase in the demand for cement, sand, bricks and other construction materials. Industries making producers' goods are likely to show wider fluctuations than those making consumer goods.
- (IV) **IRREGULAR PATTERN:** No two business cycles are similar in rhythm which is rough and imperfect. In other words, there is no fixed pattern governing each business cycle. We cannot predict the duration or timing of a business cycle. Sometimes, the duration of boom may be longer. At other times, depression phase may be longer. Through no two business cycles are similar they have many commonalities in terms of increase or decrease of purchases by customers, demand for labour, output and business profits. For instance, as the demand for software declines, their prices tumble. Wages and prices of services are likely to decline, but they tend to rise less rapidly in periods of recession.
- (V) **WAVELIKE MOVEMENT:** Business cycles reflect a wavelike movement that implies a composite photograph of all the recorded cycles. One complete round from 'peak to trough' and 'trough to peak' is called business cycle.
- (VI) **FLUCTUATION IN PRODUCTIVE CAPACITIES:** Productive capacities undergo wild fluctuations and these are measured in terms of unemployment.
- (VII) **FLUCTUATION IN PRICE LEVELS:** The upward phase of cycle is identified with expansion in productive capacities, diminishing unemployment and rise in prices. On the other hand, the downward phase is characterised by curtailment in productive capacities, increase in unemployment and fall in prices.

## 18.5 TYPES OF TRADE CYCLES:

Prof. James Arthur classified business cycles as follows:

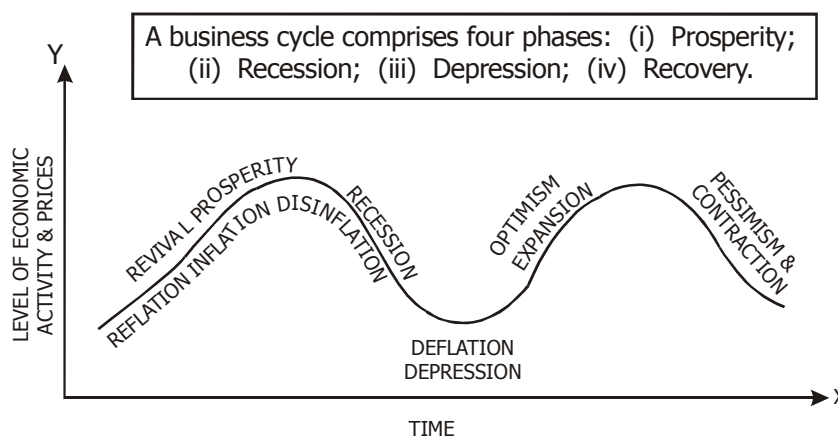
1. **MAJOR AND MINOR TRADE-CYCLES:** Major Trade-cycles are the Trade-cycles whose period is very large. Minor Trade-cycles are the cycles which occur during the period of a major cycle. Prof. *Hanson* determined the period of a Major Cycle between 8 years and 33 years. Two or three minor cycles occur during the period of a major cycle. The period of a minor cycle is 40 months.
2. **BUILDING CYCLES:** Building Cycles are the Trade-cycles related to construction industry. The period of such cycles range from 15 to 20 years.
3. **LONG WAVES:** Discovered by a Russian Economist Kondratief the period of a Long Wave is of 50 years. One or two Major Trade-cycles occur during the period of long wave.

## 18.6 STAGES OF TRADE CYCLES:

A business cycle is commonly divided into four well defined and interrelated recurring stages:

1. Prosperity Stage - expansion or upswing.
2. Recessionary Stage - a turn from prosperity to depression (or upper turning point)
3. Depressionary Stage - Contraction or downswing
4. Revival or Recovery Stage - The turn from depression to prosperity (or lower turning point).

The above four stages of a business cycle are shown in below figure. These stages are recurrent and follow a regular sequence. This means that when prosperity ends, recession starts; depression follows recession; recovery follows depression; prosperity comes after recovery and in turn gives way to recession. Thus, each stage always appears when the immediately preceding stage has run its course. It should be remembered that no stage has any definite periodicity or time interval.



**Stages of a Business Cycle**

1. **THE PROSPERITY STAGE:** Haberler defines prosperity as "a state of affairs in which the real income consumed, real income produced and level of employment are high or rising and there are no idle resources or unemployed workers or very few of either."

As Haberler points out, the characteristic features of prosperity are (i) a high level of output and trade; (ii) a high level of effective demand; (iii) a high level of employment and income; (iv) a high marginal efficiency of capital; (v) a price inflation; (vi) a rising structure of interest rate; (vii) a large expansion of bank credit; (viii) overall business optimism; and (ix) tendency of the economy to operate almost at full capacity along its production possibility frontier.

The prosperity stage comes to an end when the forces favoring expansion become progressively weak. Bottlenecks begin to appear at the peak of prosperity. In fact, profit-inflation and overoptimism, which increase the tempo, carry with them the seeds of self-destruction. In view of high profits and business optimism, entrepreneurs invest more and expand further. But scarcity of resources, particularly the shortage of raw materials and labour, causes bottlenecks and business calculations go wrong. Hence entrepreneurs become overcautious at the peak of prosperity and their overoptimism paves the way to over-pessimism. Thus, prosperity digs its own grave.

**RECESSION:** Where prosperity ends, the recession begins. Recession relates to a turning point rather than a phase. It lasts relatively for a shorter period of time. It marks the point at which the forces that make for contraction finally win over the forces of expansion. Liquidation in the stock market, reluctance to borrow bank loans and the decline in prices are its outward symptoms. The stock market is the first to experience the downfall, as there will be sudden and violent changes in the prevailing atmosphere. During a recession, businessmen lose confidence. Everyone feels pessimistic about the future profitability of investment. Hence investment will be drastically curtailed and production of capital goods industries will fall.

During the recessionary phase, the banking system and the people in general try to attain greater liquidity. Therefore credit sharply contracts. Business expansion stops, orders are cancelled and workers are laid off. There is a general drive to contract the scale of operations, leading to increase in unemployment; thus, income throughout the economy falls. Reduced income causes a decrease in aggregate expenditure and thus, the general demand falls; in turn, prices, profit and business activities decline.

**DEPRESSION:** During a depression, the most deplorable conditions prevail in the economy. Real income consumed, real income produced and the rate of employment fall or reach subnormal levels due to idle resources and capacity.

As Haberler points out, the characteristic features of a depression are the reverse of prosperity: (i) shrinkage in the volume of output, trade and transactions; (ii) Rise in the level of unemployment; (iii) price deflation; (iv) fall in the aggregate income of the community (especially wages and profits); (v) fall in the structure of interest rates; (vi) curtailment in consumption expenditure and reduction in the

level of effective demand; (vii) collapse of the marginal efficiency of capital and decline in investment demand function; (ciii) contraction of bank credit, etc...

In short, a depressionary period is characterized by an over all curtailment of aggregate economic activity at its bottom. Thus, depression and prosperity differ in degree rather than in kind. In the former, economic activity is at its trough, while in the latter, economic activity is at its peak.

However, a depression cannot be regarded as a permanent feature of an economy. In fact, the very forces which cause the depression are themselves self defeating. For, during a depression, businessmen postpone replacement of their plant and machinery and replacement and purchase of durable goods gradually accumulate. Hence, after a period of time, there will be a moderate increase in the purchase of durable goods on the consumer's part and replacement of plant and machinery on the part of producers. This will call for an increase in production, in turn leading to an increase in employment, income and aggregate effective demand. Banks will be anxious to expand credit by reducing the rate of interest. Gradually, pessimism vanishes and optimism develops and economic activity once again gather's momentum. Thus, a stage of recovery sets in.

**RECOVERY STAGE:** The revival or recovery stage refers to the lower turning point at which an economy undergoes changes from depression to prosperity. With an improvement in demand for capital goods, recovery sets in. When the demand for consumption goods rises or when the capital stock increases, the demand for capital goods will rise and new investment will be induced. Such induced investment will cause a rise in employment and income. The increased income in turn will lead to a rise in consumption which will push up the demand further which in turn leads to a rise in prices, profits, further investment, employment and income. Once the expansionary movement starts, this is how it gathers momentum. During the revival period, level of employment, output and income slowly and steadily improves. Stock markets become more sensitive during this period. A bullish atmosphere will prevail on the stock exchanges. An increase in stock prices favors expansion and hasten revival. The expectations of the entrepreneurs improve and business optimism leads to the stimulation of development investment. The wave of recovery, once initiated, begins to feed upon itself. Thus, during a recessionary period, the expansionary process will be self-reinforcing and if it continues for some time, the economy will find itself in a position of rising level of income, output and employment, when this happens, revival slowly emerges into prosperity and the cycle repeats itself.

## 18.7 CONSEQUENCES OF TRADE CYCLES:

There are disastrous economic consequences of trade cycles. For the economy as a whole, the growth is not steady or smooth due to cyclical variations. Expansionary phase has, however, a favourable impact on income, output, prices and employment. But, recession and depression imply slackness in growth, contraction of economic activity, increasing unemployment, poverty in the midst of plenty and so on.

Trade cycles have their effects on individual business firms, as well.

During expansionary phase, there is a business boom. The firm gains due to rising demand, rising prices and increasing profits. Prosperity makes the business firm prosperous. But, in a capitalist economy prosperity digs its own grave.

When economic crisis takes place, recession and depression emerge, the business firms at micro level experience many hardships, difficulties and disabilities.

During recession, there is lack of effective demand for goods, so firms find it difficult to sell their stocks, there appears over production, causing lowering of prices and heavy losses to the firms. Severe depression may force the liquidation of many business firms.

Trade cycles shatter the normal business planning for expansion.

Knowing the cyclical phases fully well the firm can adopt its appropriate business planning or change the course of its business in tune with the overall economic situation of the country and save itself from undue losses.

## 18.8 THEORIES OF TRADE CYCLES:

**18.8.1 CLIMATIC THEORY:** It is one of the earliest non-monetary theories of trade cycles emphasising the climatic factors as the main cause for the trade cycles. The names of H.L. Moore and W.S. Jevons are associated with this theory. According to them due to good and favourable climatic conditions there may be good harvests resulting in higher incomes in the agricultural sector. This increased income may create more demand for Industrial Goods. Business and trade will prosper resulting in booms. When bad climate hits the harvest the agricultural incomes will fall creating depression effects in the area of business and industry finally culminating in slump in the economic activity.

**18.8.2 INNOVATIONS THEORY:** Pronounced by Prof. Schumpeter, this theory emphasises that innovations are the regular feature of capitalist countries. Innovations change the present technologies of production by which whole of the economy is affected. Therefore, they should be regarded as an important cause of trade cycles. Prof. Schumpeter includes following in innovations – Production of a New product, Development of a New Technology of Production, Mechanical Developments. Development of New Markets, Development of New Forms of Business Organisation, Development of New Technologies of Management etc.

*Prof. Schumpeter* said that whenever there is an innovation, the situation of imbalance arises in the present economic system. It continues till the economic forces do not get adjusted in new situations. This theory is based upon the assumption that there is full employment in the economy. Suppose a new product is to be produced or the quantity of production of an existing product is to be increased, higher remuneration will have to be paid to the factors of production so that they may be attracted. Hence the prices of factors of production will increase, even in existing industries. It will increase the cost of production in all the industries. Bank credit will be expanded to finance new industries. It will further increase the prices of factors of production which will increase their purchasing power. Hence, the demand of goods and services will increase which will lead to the increase in

their prices. It will create inflation in the country. All these factors together will create atmosphere of prosperity.

#### **CRITICISMS OF INNOVATION THEORY:**

- (i) It assumes that the innovations are the only cause of trade cycles but this assumption is not correct. The fact is that it is one of the several factors causing trade-cycles but it is not the only factor.
- (ii) Bank credit alone cannot finance innovations. Innovations are financed through the issue of shares, debentures and public deposits also.
- (iii) Prof. Schumpeter could not explain the phase of recovery clearly.
- (iv) It also does not consider the periodicity of trade-cycles.

**18.8.3 PSYCHOLOGICAL THEORY:** According to *Prof. A.C. Pigou*, Trade-cycles occur due to the changes in the psychology of entrepreneurs. The feelings of optimism and pessimism develop in the minds and hearts of entrepreneurs and cause trade-cycles. When big businessmen are optimistic towards their business and look forward to the development and bright future, the phase of recovery starts which gradually leads to the phase of prosperity. They make additional investments in their business and take more interest in expanding their activities. Small businessmen follow them.

On the contrary, if big businessmen are pessimistic towards their business, the phase of recession starts and leads to the phase of depression. Businessmen start to withdraw their investments and do not take much interest in the development and expansion of business activities. Hence there is a decline in the level of production, income and employment. Psychological changes are cyclical and cause trade-cycles.

#### **CRITICISMS OF PSYCHOLOGICAL THEORY:**

- (i) It does not explain the factors that affect the psychology of businessmen. Thus it is incomplete.
- (ii) It is based upon the assumption that the feelings of optimism and pessimism occur in the minds and hearts of businessmen but it does not explain why it happens so. Thus this theory is incomplete.
- (iii) It does not explain the process of converting one phase of trade-cycles into another phase.
- (iv) Feelings of optimism and pessimism can be an important cause of trade-cycles but they cannot be the only cause of trade cycles.

**18.8.4 OVER PRODUCTION THEORY:** It was propounded by *Prof. Hayek*. According to it trade-cycles occur due to difference between natural rate of interest and actual rate of interest which causes significant increase or decrease in the prices of goods and services. This theory is based upon the assumption that savings and investments are always equal. It can be possible only when the capital is created and generated through savings only. In practical life banks also create credit. Their aim is to earn maximum profit. Hence they

reduce the rate of interest so that the businessmen and industrialists may be encouraged to take more and more loans for their business and industrial enterprises. The investment in business and industrial enterprises starts to increase which in turn, increases the level of production, employment, wages and salaries etc. Due to an increase in the prices of factors of production, their purchasing power increases and they demand more goods and services than before. It leads to an increase in the prices of goods and services. All these factors together create the atmosphere of prosperity.

#### **CRITICISMS OF OVER-INVESTMENT THEORY:**

- (i) It assumes that when there is a situation of equilibrium in an economy, all the factors of production get full employment but this assumption is not real.
- (ii) Prof. Hayck was of the opinion that the equilibrium between savings and investments is established by the rate of interest. This assumption is also not correct because the equilibrium between savings and investment is established by the level of income and not by the rate of interest.
- (iii) He has over emphasised the importance of changes in the rate of interest.
- (iv) It does not explain how the investments are related to demand.
- (v) It does not explain all the phases of trade cycles.
- (vi) It does not consider the periodicity of trade cycles.

**18.8.5 KEYNE'S THEORY OF TRADE CYCLES:** The Keynesian Theory of trade cycle is an integral part of his theory of income and employment. Keynes regards the trade cycle as mainly due to a cyclical change in the marginal efficiency of capital, though complicated and often aggravated by associated changes in the other significant short-period variables of the economic system.

According to Keynes, the principal cause of depression and unemployment is the lack of aggregate demand. Revival can be brought about by raising aggregate demand which in turn can be raised by increasing investment and consumption. Since consumption is stable during the short run, therefore revival is possible by increasing investment. Similarly, the main cause of downturn is reduction in investment. Thus the Keynesian theory of trade cycles, fluctuations in economic activity are caused by fluctuations in the rate of investment. And fluctuations in the rate of investment are caused mainly by fluctuations in the marginal efficiency of capital. The rate of interest which is the other determinant of investment, is more or less stable and does not play a significant role in cyclical fluctuations in investment, but at times it reinforces and supplements the primary motivating factor i.e., changes in marginal efficiency of capital. Marginal efficiency of capital means the expected rate of profit on new investment. Therefore the economic fluctuation results from the changes in the expectations about the rate of profit on new investment.

Fluctuations in the marginal efficiency of capital the expected rate of profit on new investment are due to (a) changes in the prospective yield and (b) changes in the cost or supply price of the capital goods. It is prospective yield which makes the marginal efficiency of capital very unstable and subject to violent fluctuations.



To explain the course of the Keynesian cycle, we start with the expansion phase. During the expansion phase, the MEC is high. Businessmen are optimistic. There is a rapid increase in the rate of investment consequently, output, employment and income increase. Every increase in investment leads to a multiple increase in income via multiplier effect. This cumulative process of rising investment, income and employment continues till the boom is reached. As the boom progresses, there is tendency for the MEC to fall due to two reasons. First, as more capital goods are being produced steadily, the current yield on them declines. Second, at the same time the current costs of new capital goods rise due to shortages and bottle necks of raw materials and labour. During the downturn, investment falls due to a fall in the MEC and rise in the rate of interest. This leads to a cumulative decline in employment and income via the reverse operation of the multiplier. Further, the fall in the MEC may shift the consumption function downward thereby hastening the depression.

The revival depends on the factors which bring about the recovery of the MEC. The interval, between the upper turning point in the trade cycle, and the start of recovery, is conditioned by two factors. (1) The time necessary for wearing out of durable capital assets and (ii) The time required to absorb the excess stocks of goods left over from the boom. Just as the MEC was pushed down by the growing abundance of capital goods during the period of boom, similarly as the stocks of capital goods are depleted and there grows a scarcity of capital goods, the MEC rises, thereby inducing the businessmen to invest more. Income increases due to the multiplier effect. So the cumulative process starts upward.

**18.8.6 HAWTREY'S MONETARY THEORY OF TRADE CYCLE:** According to Prof. R.G. Hawtrey "The trade cycle is a purely monetary phenomenon". It is changes in the flow of monetary demand on the part of business men that lead to prosperity and depression in the economy. He opines that non-monetary factors like strikes, floods, earthquakes, droughts wars etc. may at best cause a partial depression but not a general depression. In actuality, cyclical fluctuations are caused by expansion and contraction of bank credit, in turn, lead to variations in the flow of monetary demand on the part of producers and traders. Bank credit is the principal means of payment in the present times. Credit is expanded or reduced by the banking system by lowering or raising the rate of interest or by purchasing or selling securities to merchants. This increases or decreases the flow of money in the economy and thus brings about prosperity or depression.

The expansion phase of the trade cycle starts when banks increase credit facilities. They are provided by reducing the lending rate of interest and by purchasing securities. These encourage borrowings on the part of merchants and producers. This is because they are very sensitive to changes in the rate of interest. So when credit becomes cheap, they borrow from banks in order to increase their stocks or inventories. For this, they place larger orders with producer, who in turn, employ more factors of production to meet the increasing demand. Consequently, money incomes of the owners of the factors of production increase, thereby increasing expenditure on goods. The merchants find their stocks being exhausted. They place more orders with producers. This leads to further increase in productive activity, income, outlay, demand and a further depletion of stocks of merchants. According to Hawtrey, "Increased activity means increased demand and

increased demand means increased activity. A vicious circle is set up, a cumulative expansion of productive activity.

As the cumulative process of expansion continues, producers quote higher and higher prices. Higher prices induce traders to borrow more in order to hold still larger stocks of goods so as to earn more profits. Thus optimism encourages borrowing, borrowing increases sales and sales raise optimism.

According to Hawtrey, prosperity cannot continue limitlessly. It comes to an end when banks stop credit expansion. Banks refuse to lend further because their cash funds are depleted and the money in circulation is absorbed in the form of cash holdings by consumers. Another factor is the export of gold to other countries when imports exceed exports as a result of high prices of domestic goods. These factors force the banks to raise the business community to repay their loans. This starts the recessionary phase.

In order to repay bank loans, businessmen start selling their stocks. This sets the process of falling prices. They also cancel orders with producers. The latter curtail their productive activities due to fall in demand. This, in turn leads to reduction in the demand for factors of production. There is unemployment, income fall. Unable to repay bank loans, some firms go into liquidation thus forcing banks to contract credit further. Thus the entire process becomes cumulative and the economy is forced in a depression.

According to Hawtrey, the process of recovery is very slow and halting as depression continues, traders repay bank loans by selling their stocks at whatever prices they can. As a result, money with banks. Even though the bank rate is very low, there is "Credit dead lock" which prevents businessmen to borrow from banks due to pessimism in economic activity. This dead lock can be broken by following a cheap money policy by the central bank which will ultimately, bring about recovery in the economy.

**18.8.7 HICKS THEORY OF TRADE CYCLES:** Prof. Hicks propounded a new theory of Trade-cycles also known as modern theory. It is also based upon multiplier and accelerator. According to Prof. Hicks, "Main cause of cyclical fluctuations is the combined result of multiplier process and accelerator effect." He further said, "Multiplier and accelerator theories are the two arms of fluctuations theory".

Prof. Hicks has divided total investments into two parts : (i) **Autonomous Investments.** Autonomous Investments are the investments which are not affected by the changes of income or demand. These investments continue to grow on their own. (ii) **Induced Investment.** Induced investments are the investments which are affected by the changes of income or demand or production etc.

This theory of Trade-cycles explains the mutual relationship between income and investments. It explains those changes of production and consumption also that take place due to the changes in income and investment. It explains the effect of investments on the multiplier of consumption and the effect of changes in the accelerator of consumption on investments. Mutual effects of these factors cause fluctuations in the economy.

If there is a situation of equilibrium between production and investments, a new autonomous investment is made. Hence, the multiplier will increase the quantity of income many times in comparison to investment. It means an increase in consumption which

increase induced investments also. Thus, induced investments increase production which further increases induced investments. The economy rises above the point of equilibrium but it cannot rise beyond a certain level. At this level, the trend of expansion is checked and at last starts to go down to the operation of multiplier and accelerator in opposite direction. The cause of such decline is that the induced investments are insufficient to maintain the level of production. Soon the trend of decline starts, sale of production becomes a difficult problem. As industrial enterprises are unable to recover even their fixed costs, some firms start to fail. It increases the liquidity preference of public which, in turn worsens credit creation. Hence, there is a steep fall in business activities. All these factors together create the atmosphere of depression.

Following table makes it clear how do the multiplier and accelator affect economic fluctuations :

#### MULTIPLIER AND ACCELERATOR-INTRACTION

Duration of Multiplier	Original Investments (Rs. In Crores)	Induced Consumption (Rs. In Crores)	Induced Investments (Rs. In Crores)	Total Income (Rs. In Crores)
1	100	0	0	100
2	100	50	100	250
3	100	125	150	375
4	100	165	125	390
5	00	210	40	350

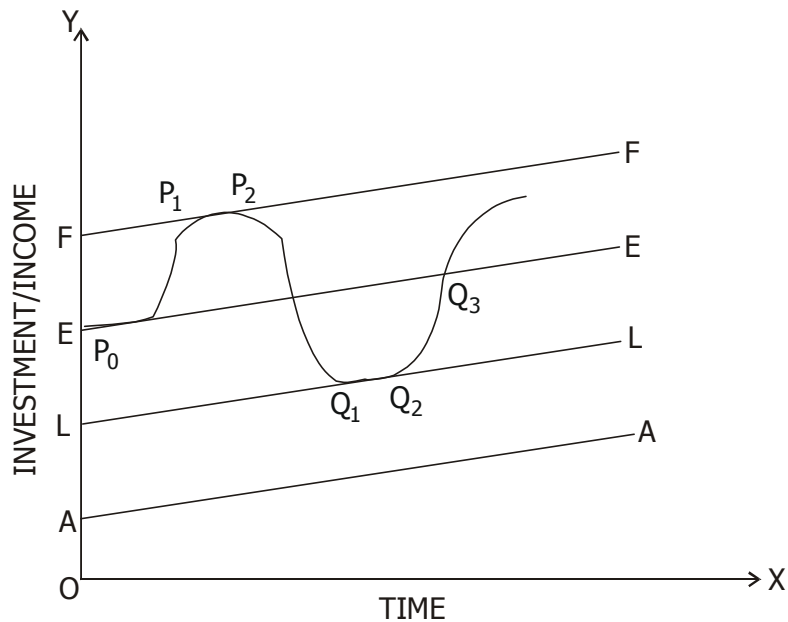
The above table has been prepared on the following two assumptions :

- (i) Marginal Propensity to Consume (MPC) is  $\frac{1}{2}$  or 0.5.
- (ii) Accelator is 2.

The above table presents the results as follows :

- (i) **First Period.** Multiplier and accelerator do not operate. Therefore, total income and marginal investment are equal (Rs. 100/Crores)
- (ii) **Second Period.** Consumption is Rs. 50 crores because  $MPC = 0.5$ . Investments incurred by Rs. 100 crores because accelerator is 2. Therefore, total increase in income during second period is Rs. 200 crores.
- (iii) **Third Period.** Expenditure on consumption will be Rs. 125 crores ( $250 \times \frac{1}{2}$ ). Thus, total expenditure on consumption will increase by Rs. 75 crores. Induced investments will be Rs. 150 crores and total income will increase by Rs. 375 crores.
- (iv) **Fourth Period.** Total income will be Rs. 390 crores due to interaction of multiplier and accelerator.
- (v) **Fifth Period.** The downward trend starts and total income comes to Rs. 350 crores only.

This theory can be explained with the help of following diagram



In this diagram 'AA' line represents autonomous investments. Since it is a straight line, it represents that the investments of this nature increase at a certain rate. 'EE' line represents increase in total income generated by the interaction of multiplier and accelerator. 'FF' is the highest level of employment and total national product cannot increase beyond this limit. 'LL' is the line below which national income cannot go. Suppose that 'P<sub>0</sub>' is the situation of equilibrium in diagram and due to a research or innovation, the investment increases to 'P<sub>1</sub>'. As a result of this, total income also increases. This increase further encourages investments due to the operation of accelerator. As this stage, multiplier starts to operate which increase income many times. As a result of interaction of multiplier and accelerator, total income goes on increasing on 'P<sub>0</sub>' to 'P<sub>1</sub>' path but it can never cross 'P<sub>1</sub>' because it is the maximum limit of production and employment. After this point, the rate of increase in national income comes down, as a result of which, trade-cycle curve slopes downwards. Therefore, total national income moves to 'EE' from the point 'P<sub>2</sub>'. Investments go on declining and the economy touches the point 'Q<sub>1</sub>'. National income cannot be less than this level. Therefore, trade-cycle curve will not slope downward further. Economy will slope from 'Q<sub>1</sub>' to 'Q<sub>2</sub>'. At this point, investments start to increases slightly.

**ASSUMPTION OF THE THEORY:**

- (i) Present consumption is the function of previous income.
- (ii) The multiplier of savings and investments is in the form that the economy can move in a circular form.
- (iii) Values of multiplier and accelerator are constant.
- (iv) Economy is developing in which autonomous investments increase at a constant rate and as a result, the economy remains in the situation of dynamic equilibrium.
- (v) Economy cannot be expanded beyond the level of full employment.
- (vi) The operation of accelerator during the period of contraction is different from its operation during the period of expansion and this difference is important for the fluctuations of economic activities.
- (vii) Average capital production ratio is more than unit.
- (viii) Production and income are always measured in their real senses.

**CRITICAL EVALUATION:** Modern theory of trade-cycles is a logical and scientific analysis of different phases of trade-cycles. Important criticisms of this theory are as under:

- (i) It is based upon certain assumptions out of which some assumptions are not real. These assumptions are as under :
  - (a) The value of multiplier and accelerator remains constant during different phases of trade-cycles.
  - (b) Ratio between acceptor and capital output is constant.
  - (c) Autonomous investments are made regularly during different phases of Trade-cycles.
- (ii) It defines the level of full employment as independent from the path of production but in practical life, it cannot be so.
- (iii) It assumes that the problem of Trade-cycles is purely a problem of technical or mechanical nature but in practical life, the changes in economic activities are not so technical and mechanical.
- (iv) It makes significant difference between autonomous investments and induced investments. In practical life, it is not possible to draw such a line of distinction between the two.
- (v) It does not lay emphasis upon the role of monetary forces.
- (vi) It is unable to explain the process of change from the phase of prosperity to the phase of depression.
- (vii) It assumes that during depression, autonomous investments will increase but the critics are of the view that it does not happen so.

- (viii) It assumes that the duration of the phase of contraction is longer than that of the phase of expansion. Practical experience, particularly after wars, has proved that the duration of the period of expansion is much longer than the duration of contraction.

## 18.9 REMEDIAL MEASURES:

Measures to control Trade cycles can be broadly divided into two : (1) Preventive Measure  
(2) Formal Measures.

**(1) PREVENTIVE MEASURES:** These are not the measures to control Trade-cycles but the measures which are adopted to minimise the possibility of occurrence of Trade-cycles. Important preventive measures are as follows:

1. Agriculture should not depend upon rain-fall. Adequate irrigation facilities should be developed in the country.
2. Inequalities in the distribution of income and wealth should be reduced to minimum.
3. Speculative trend should be checked.
4. Industries should be nationalised wherever necessary.
5. Efforts should be made to maintain proper balance between demand and supply.
6. Monetary and fiscal policies should be well regulated and controlled.
7. Business and industrial activities should be strictly controlled.

**[II] FORMAL MEASURES:** These are the measures which cannot help in removing the fundamental causes of Trade-cycle, but can minimise them. Important formal measures are as under:

1. **Monetary Policy :** It includes all the measures through which central bank of the country regulates, the supply of money and credit in the country. The policy of credit expansion is followed to overcome the situation of depression, so that the entrepreneurs may be encouraged to take more loans and to increase their investment so that the level of production, employment and income may be increased. On the contrary, the policy of credit contraction is adopted to overcome situation of money inflation so that entrepreneurs may be compelled to withdraw their investment.
2. **Fiscal Policy :** There are four important components of fiscal policy-Budget Policy, Taxation Policy, Public Expenditure and Public Debt. Fiscal policy plays an important role in controlling trade cycles. During the period of depression, the important object of fiscal policy should be to increase effective demand. During the period of money inflation, main aim of fiscal policy should be to reduce public expenditure.
3. **Physical Controls:** These include price support policy, price control and rationing etc. During the period of depression, Government should so fix minimum prices that the rise in price may be controlled. It should purchase various products at a pre-determined price. During the period of money inflation, Government should adopt the policy of rationing so that the goods may be provided to consumers at reasonable prices.

**4. Other Measures:**

- a. International assistance should be obtained to fight against the problems of depression and unemployment.
- b. Technical unemployment should be removed by removing market imperfections.

**18.10 CONCLUSIONS:**

From the foregoing analysis, we may note that every economy is subject to healthy and prosperous business conditions and recession. These fluctuations are called trade cycles. Trade Cycles are said to pass through five different stages or phases, namely, depression, reconens, prosperity, boom and recession. These trade cycles leads to various economic evil consequences. The measures to solve problems arising out of trade cycles can broadly be categorized as monetary policy, fiscal policy and other measures.

**18.11 POINTS TO REMEMBER:**

1. A Trade Cycles in dienes as a swing in the total national output, income and employment.
2. Each Trade Cycle in characterized by cyclical movements, irregular pattern, wave like movement, fluctuation in price levels etc.
3. The main phases of trade cycles are depression, reconens, prosperity, boom and recession.
4. Monetary policy refers to 1 to polices the Central Bank of a country adopts to control Trade Cycle.
5. Fiscal Molicy gets under way when the root cause of depression is viewed as the falling prosperity to consume.

**18.12 MODEL QUESTIONS:****SHORT ANSWERS:**

1. Features of Trade Cycles
2. Psychological Theory
3. Types of Trade Cycles
4. InnovationsTheory
5. Keyns Theory of Trade Cycle
6. Climate Theory

**ESSAY ANSWERS:**

1. Define TradeCycles and Explain Phases.
2. Whare are the reasons and measures of Trade Cycles.
3. Expalin icks Thens of Trade Cycles
4. Examine Hotray ThemS of Trade Cycles

**18.13 SUGGESTED REFERENCES:**

1. Paul A samuelson : Economics
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4. A.H. Hansen : A Guide to Keynes



## **Lesson : 19**

# **NATIONAL INCOME**

### **19.0 AIMS AND OBJECTIVES:**

The main aim of this chapter is to give a brief note on National Income. By the end of this lesson you can understand the following:

- \* What is National Income and definitions
- \* Concepts and Components of National Income
- \* Measurement of National Income
- \* Difficulties and Importance of National Income

### **CONTENTS:**

- 19.0 Objectives**
- 19.1 Introduction**
- 19.2 National Income - Definitions**
- 19.3 Components of National Income**
  - 19.3.1 Consumption**
  - 19.3.2 Gross Domestic Investment**
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- 19.4 Concepts of National Income**
- 19.5 Methods of Measuring National Income**
- 19.6 Difficulties**
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- 19.8 National income Accounts of India**
- 19.9 The Measurement of National Income in India**
- 19.10 Conclusions**
- 19.11 Points To Remember**
- 19.12 Model Questions**
- 19.13 References**

## 19.1 INTRODUCTION:

How do you know whether a particular country is developing or developed ? It is an economy progressing or deteriorating? How much is the value of goods and services produced in a given economy ? What is the standard of living in a particular country? All these questions have only one answer - national income - that is, the income of a country. It is the aggregate of incomes earned by all the individuals in a country. It is a measure of output and income and helps us to find out how an economy is growing from year to year. A healthy growth rate of national income indicates that the people in the country earn larger incomes and enjoy a high standard of living.

This chapter deals with the concept of national income, factors determining national income, concepts used in measurement and difficulties in measurement. Certain emerging concepts in measuring social and economic advancement are also discussed here.

## 19.2 NATIONAL INCOME - DEFINITIONS:

The definitions of national income can be grouped into two classes. One, the traditional definitions advanced by Marshall, Pigou and Fisher; and two, modern definitions.

**THE MARSHALLIAN DEFINITION:** According to Marshall – “The labour and capital of a country acting on its natural resources produce annually a certain net aggregate of commodities, material and immaterial including services of all kinds... This is the true net annual income or revenue of the country or national dividend”. In this definition, the word ‘net’ refers to deductions from the gross national income in respect of depreciation and wearing out of machines. And to this must be added income from abroad.

The Pigovian Definition – Marshall’s follower, A.C. Pigou, has in his definition of national income included that income which can be measured in terms of money. In the words of Pigou, “National income is that part of objective income of the community, including of course income derived from abroad which can be measured in money.” This definition is better than that of Marshallian definition. It has proved to be more practical also. While calculating the national income now a days, estimates are prepared in accordance with the two criteria laid down in this definition. First, avoiding double counting, the goods and services which can be measured in money are included in national income. Second, income received on account of investment in foreign countries is included in national income.

Fisher’s Definition – Fisher adopted ‘consumption’ as the criterion of national income whereas Marshall and Pigou regarded it to be production. According to Fisher, “The national dividend or income consists solely of services as received by ultimate consumers, whether from their material or from their human environments. Thus, a piano, or an overcoat made for me this year is not a part of this year’s income, but an addition to the capital. Only the services rendered to me during this year by these things are income”. Fisher’s definition is considered to be better than that of Marshall or Pigou, because Fisher’s definition provides an adequate concept of economic welfare which is dependent on consumption and consumption represents our standard of living.

But the definitions advanced by Marshall, Pigou and Fisher are not altogether flawless. However, the Marshallian and Pigovian definitions tell us of the reasons influencing economic welfare,

whereas Fisher's definition helps us compare economic welfare in different years.

From the modern point of view, Simon Kuznets has defined national income as "the net output of commodities and services flowing during the year from the country's productive system in the hands of the ultimate consumers," whereas, in one of the reports of United Nations, national income has been defined on the basis of the systems of estimating national income, as net national product, as addition to the shares of different factors, and as net national expenditure in a country in a year's time. In practice, while estimating national income, any of these three definitions may be adopted, because the same national income would be derived, if different items were correctly included in the estimate.

### 19.3 COMPONENTS OF NATIONAL INCOME:

The various components of the National Income are:

1. Consumption (C)
2. Gross Domestic Investment (I)
3. Government Expenditure (G)
4. Net Foreign Investment or Net Investment abroad (X - M)

**19.3.1 CONSUMPTION:** By consumption, we mean the expenditure made on good and services which directly satisfy our wants. e.g., cloth, food products, education and health services etc. A major portion of the national income comprises only consumption goods and services. Consumption of households and firms, which are not for making profit forms the private consumption demand.

**19.3.2 GROSS DOMESTIC INVESTMENT:** The expenditure made on producer goods by the firms to produce goods and services is the investment expenditure. e.g., machinery and tools etc. They satisfy the wants indirectly. These goods can produce other producer goods or consumer goods. Producer goods are not essential for the growth in national income.

**19.3.3 GOVERNMENT EXPENDITURE:** The expenditure incurred on various goods and services by the government is the public expenditure. Government provides roads, schools, medical facilities, irrigation, electricity, infrastructure facilities etc. to the society. It also provides administrative services, defence services etc.

**19.3.4 NET FOREIGN INVESTMENT:** If the value of exports is more than the value of imports, other countries are indebted to our country. So, it must be added to national income. If the value of imports is more than exports, that difference must be deducted from national income.

$$\text{Exports} - \text{Imports} = \text{Net Foreign Investment}$$

$$Y = C + I + G + (X - M) \text{ where}$$

$$Y = \text{National Income (Y)}$$

$$C = \text{Private consumption or national consumption}$$

I = National investment or Aggregate domestic investment

G = Public expenditure or Government consumption

X - M = Net Foreign Investment

## 19.4 CONCEPTS OF NATIONAL INCOME:

There are various concepts of national income which we study one by one.

### GROSS NATIONAL PRODUCT (G.N.P.):

This is the basic social accounting measure of the total output or aggregate supply of goods and services. **Gross National Product is defined as the total market value of all final goods and services produced in a year.**

The two things must be noted in regard to gross national product. First it measures the market value of the annual output. In other words, **G.N.P. is a monetary measure.** There is no other way of adding up the different sorts of goods and services produced in a year except with their money prices. But in order to know accurately the changes in physical output, the figure for gross national product is adjusted for price changes.

Secondly, **double counting has to be avoided.** This means that for calculating gross national product accurately, all goods and services produced in any given year must be counted once, but not more than once. Most of the goods go through a series of production stages before reaching a market. As a result, parts or components of many goods are bought and sold many times. Hence to avoid counting several times the parts of goods that are sold and resold, gross national product only includes the market value of final goods and ignores transactions involving intermediate goods.

What do we mean by final goods ? Final goods are those goods which are being purchased for final use and not for resale or further processing. Intermediate goods, on the other hand, are those goods which are purchased for further processing or for resale. The sale of final goods is included in gross national processing or for resale. The sale of final goods is included in gross national product while the sale of intermediate goods is excluded from gross national product. Why ? Because the value of final goods includes the value of all intermediate goods used in their production. The inclusion of intermediate goods would involve double counting and will, therefore, give an exaggerated estimate of gross national product.

An example will clarify this point. Suppose in our economy only two things are produced, raw cotton worth Rs. 100 and cotton cloth worth Rs. 200. Now what shall be the measure of gross national product ? For finding it, if we add up the sales value of cloth and cotton, there is clearly an element of double counting in the sense that we have added the value of cotton twice – once as the sales value of cotton and secondly when we added to it the value of cloth. Actually, the value of cloth includes also the value of cotton, which having been accounted for already, should not be added a second time.

The “**gross national product at market prices**” may be obtained by adding up :

- (a) What private persons spend on consumption, or what is called **personal consumption expenditure**;

- (b) What private business spends on replacement, renewal and new investment. This is called **gross domestic private investment**;
- (c) What the rest of the world spends on the output of the national economy over and above what this economy spends on the output of the rest of the world, i.e., export surplus or **net foreign investment**; and
- (d) What the government spends on the purchase of goods and services, i.e., **government purchases**.

**NET NATIONAL PRODUCT (N.N.P.):** The second important concept of national income is that of net national product. In the production of gross national product of a year, we consume or use up some capital, i.e., equipment, machinery, etc. The capital goods, like machinery, wear out or fall in value as a result of their use in the production process. This consumption of fixed capital or fall in value of capital due to wear and tear is called depreciation. When changes for depreciation are deducted from the gross national product, we get the net national product. Clearly, it means the market value of all final goods and services after providing for depreciation therefore, it is also called 'national income at market prices'. Therefore,

Net National Product

Or

National Income at market price = Gross National Product – Depreciation.

**NATIONAL INCOME AT FACTOR COST:** National income at factor cost means the sum of all incomes earned by resource suppliers for their contribution of land, labour, capital and entrepreneurial ability which go into the year's net production, or, in other words, national income (or national income at factor cost) shows how much it costs society in terms of economic resources, to produce that net output. It is really the national income at factor cost for which we use the term National Income.

The difference between national income (or national income at factor cost) and net national product (national income at market prices) arises from the fact that indirect taxes and subsidies cause market prices of output to be different from the factor incomes resulting from it.

On the other hand, a subsidy causes the market price to be less than the factor cost. Suppose handloom cloth is subsidized at the rate of 19 P a meter and it sells at 81 P. Then while the consumer pays 81 P. Per meter, the factors engaged in the production and distribution of such cloth receive Re. 1 per meter. The value of handloom cloth at factor cost would thus be equal to its market price plus the subsidies paid on it.

It follows, therefore, that the national income (or national income at factor cost) is equal to net national product minus indirect taxes plus subsidies.

National Income

or

National Income at = Net National Product (National Income at Market Price) –  
Indirect Factor Cost Taxes + Subsidies

**PERSONAL INCOME (P.I.):** Personal Income is the sum of all incomes actually received by all individuals or households during a given year. National income, that is, total income earned, and personal income, that is, income received, must be different for the simple reason that some income which is earned – social security contributions, corporate income taxes and undistributed corporate profits – is not actually received by households and, conversely, some income which is received – transfer payments – is not currently earned. (**Transfer Payments** are old-age pensions, unemployment compensation, relief payments, interest payments on the public debt, etc.)

Obviously, in moving from national income as an indicator of income earned to personal income as an indicator of income actually received, we must subtract from national income those three types of incomes which are earned but not received but not currently earned. Therefore

Personal Income = National Income – Social Security Contribution – Corporate Income Taxes – Undistributed Corporate Profits + Transfer Payments.

**DISPOSAL INCOME (D.I.):** After a good part of personal income is paid to government in the form of **personal taxes** like income tax and personal property taxes, what remains of personal income is called **disposable income**.

Disposable Income = Personal Income – Personal Taxes.

Disposable Income can either be consumed or saved. Therefore

Disposable Income = Consumption + Saving.

## 19.5 METHODS OF MEASURING NATIONAL INCOME:

Production and sale of goods and services and the generation of income which accompanies these activities are processes that go on continuously. Production gives rise to income; income gives rise to demand for goods and services; and demand in turn gives rises to expenditure; again expenditure leads to further production. The circular flow of production, income and expenditure represents three related phases, namely, production, distribution and disposition. These three phases enable us to look at national income in three ways – as a flow of goods and services, as a flow of incomes or as a flow of expenditure on goods and services. To measure it at each phase, we require different data and methods. If we want to measure it at the phase of production, we have to find out the sum of net values added by all the producing enterprises of the country. If we want to measure it at the phase of income distributed, we have to find out the total income generated in the production of goods and services. Finally, if we want to measure it at the phase of disposition, we have to know the sum of expenditures of the three spending units in the economy, namely, government, consumer households, and producing enterprises.

Corresponding to the three phases, there are three methods of measuring national income. They are :

- (i) Value Added Method (alternatively known as Product Method);
- (ii) Income Method; and
- (iii) Expenditure Method.

(I) **VALUE ADDED METHOD:** Value added method measures the contribution of each producing enterprise in the domestic territory of the country. This method involves the following steps:

- a. Identifying the producing enterprise and classifying them into industrial sectors according to their activities.
- b. Estimating net value added by each producing enterprise as well as each industrial sector and adding up the net value added by all the sectors.

All the producing enterprises are broadly classified into three main sectors namely: (1) Primary sector which includes agriculture and allied activities; (2) Secondary sector which includes manufacturing units and (3) Tertiary sector which include services like banking, insurance, transport and communications trade and professions. These sectors are further divided into sub-sectors and each sub-sector is further divided into commodity group or service-group.

For calculating the net product of the industrial sector we need to know about gross output of the sector, the raw materials and intermediate goods and services used by the sector and the amount of depreciation. For an individual unit, we subtract from the value of its gross output, the value of the raw material and intermediate goods and services used by it and, from this, we subtract the amount of depreciation to get net product or value added by each unit. Adding value-added by all the units in one sub-sector, we get value-added by the sub-sector. Again adding value-added or net products of all the sub-sectors of a sector we get value-added or net product of that sector. For the economy as a whole, we add net products contributed by each sector to get Net Domestic Product. If the information regarding the final output and intermediate goods is available in terms of market prices we can easily convert it in terms of factor costs by subtracting (or adding as the case may be) net indirect taxes to it. If we add or subtract net income from abroad we get Net National Product at factor cost which is nothing but National Income.

Case should be taken to include the value of the following items:

- (a) Own account production of fixed assets by government, enterprises and households.
- (b) Production for self-consumption.
- (c) Imputed rent of owner occupied houses.

Care should also be taken not to include sale of second-hand machines because they were counted as a part of production in the year in which they were produced. However, brokerage and commission earned by the dealers of second-hand goods are a part of production and hence included while calculating total value-added.

Moreover, large areas of production activities are excluded for varying reasons. Their net products cannot be valued either because there is no acceptable way of valuing them (which is true in the case of services of housewives or self-

services in homes or services of friends) or because of the difficulty of securing data of the subsistence producing units particularly in underdeveloped countries.

Similarly, adequate data regarding output, raw materials etc. are not often available from many proprietorships, partnerships, nonprofit institutions and governments. Lack of adequate and reliable data is a serious problem in the measurement of the national incomes of under developed countries.

The product method thus gives information about the industrial origins of national income. Additionally net income from abroad should also be included or subtracted to get a true picture of national income.

- (II) INCOME METHOD:** Different factors of production pool their services for carrying out production activities. These factors of production, in return, are paid for their services in the form of factor incomes. Thus labour gets wages, land gets rent, capital gets interest and entrepreneur gets profits. In other words, whatever is produced by a producing unit is distributed among the factors of production for their services and aggregate of factor incomes of all the factors of production of all the producing units from the subject matter of calculation of national income by income method.

Only incomes earned by owners of primary factors of production are included in national income. Transfer incomes are excluded from national income. Thus, while wages of labourers will be included, pensions of retired workers will be excluded from national income.

Labour income includes, apart from wages and salaries, bonus, commission, employers' contribution to provident fund and compensations in kind. Non-labour income includes dividends, undistributed profits of corporations before taxes, interest, rent, royalties, profits of unincorporated enterprises and of government enterprises.

However, normally, it is difficult to separate labour income from capital income because in many instances people provide both labour and capital services. Such is the case with self-employed people like lawyers, engineers, traders, proprietors etc. in economics where subsistence production and small commodity production is dominant most of the incomes of people would be of mixed type. In sectors such as agriculture, trade, transport etc. in underdeveloped countries (including India), it is difficult to differentiate between labour element and capital element of incomes of the people. In order to overcome this difficulty a new category of incomes, called mixed income is introduced which includes all those incomes which are difficult to separate.

Care has to be taken to see that transfer incomes do not get included in national income. In this context it is worthwhile to note that personal income which is income of household sector should not be confused with national income. While personal income includes transfer payments, national income does not. Similarly, illegal incomes, windfall gains, death duties, gift tax and sale proceeds of second-hand goods are not included while calculating national income.



Net income from abroad need not be added separately since the incomes received by people include net foreign incomes as well. But if national income is calculated not from incomes received by the people but from data regarding incomes paid out by producers then net income from abroad would have to be added separately because incomes paid by producers would total to domestic income. To arrive at national income, net income from abroad should be added to domestic income.

- (III) EXPENDITURE METHOD:** The various sectors – household sector, business sector and government sector either spend their incomes on consumer goods and services or save a part of their incomes or we can say that they spend a part of their incomes on on-consumption goods (or capital goods).

Total expenditure in an economy consists of expenditure on financial assets, on goods produced in preceding periods, on raw materials and intermediate goods and services and on final goods and services produced in the current period.

Expenditure on financial assets which are produced and owned within the country is excluded but expenditure on financial assets of foreign countries is included in national expenditure. However, only the net expenditure i.e., the difference between expenditure on foreign financial assets by residents and expenditure on the country's financial assets by non-residents or foreign financial assets by residents and expenditure on the country's financial assets by non-residents or foreigners is incorporated. This difference is also called net foreign investment. Goods produced in preceding years are also excluded from national income because they have been accounted for in the national incomes of the periods when they were produced. Similarly, expenditure on raw materials and intermediate goods and services are excluded because otherwise there would be double counting of some of the items included in the national income. Government expenditure on pensions, scholarships, unemployment allowance etc. should be excluded because these are transfer payments.

Thus, only expenditure on final goods and service produced in the period for which national income is to be measured and net foreign investment are included in the expenditure method of calculating national income.

Expenditure on final goods and services is broadly classified into expenditure on consumer goods and service (also called consumption expenditure) and expenditure on capital goods (also called investment expenditure). Consumption expenditure is classified into private consumption expenditure of the household sector and government consumption expenditure; and investment expenditure is classified into private investment expenditure by business sector and investment expenditure by government. To the total domestic investment we add net foreign investment in order to arrive at national investment. Thus, the aggregates resulting from the expenditure method measured at market prices are as follows :

Gross national expenditure = Consumption expenditure + net domestic investment + net foreign investment + replace expenditure (i.e., expenditure on replacement investment).

Net national expenditure = Consumption expenditure + net domestic investment + net foreign investment.

Net domestic expenditure = Consumption expenditure + net domestic investment.

All the three methods mentioned above should ideally lead to the same figure of national income and therefore national income of a country should be measured by these methods separately to get a three dimensional view of the economy. This helps the government to analyse the level of production and economic welfare in the economy, to analyse stability and growth of the economy and to formulate appropriate economic policies of the government. Moreover, each method provides a check on the accuracy of the other methods. However, it is easier said than done. Because of lack of proper and reliable data it is very difficult to estimate national income by each method separately. This is especially so in undeveloped economies.

As a matter of fact, countries like India are unable to estimate their national income wholly by one method. The contributions of different sectors to the total national income are estimated by different methods. Thus, in agricultural sector net value added is estimated by the production method, in small scale sector net value added is estimated by the income method and in construction sector net value added is estimated by the expenditure method.

Income method may be most suitable for developed economies where people properly file their income tax returns. With the growing facility in the use of the commodity flow method of estimating expenditures, an increasing proportion of the national income is being estimated by the expenditure method.

## 19.6 DIFFICULTIES:

To calculate the national income of a country is a complicated problem and is beset with the following difficulties:

- (1) First there is the difficulty of defining 'nation' in national income. Every nation has its political boundaries, but in the national income is also included the income earned by the nationals of a country in foreign country beyond the territorial boundaries of the country.
- (2) National income is always measured in money, but there are a number of goods and services which are difficult to be assessed in terms of money, e.g., painting as a hobby by an individual, the bringing up of children by the mother. Similarly, when the owner of a firm gets married to his aldy secretary, her services, though a part of national income, are not included in it. By excluding all such services from it, the national income will work out to be less than what it actually is.
- (3) The greatest difficulty in calculating the national income is of double counting, which arises from the failure to distinguish properly between a final and an intermediate product. There always exists the fear of a good or a service being included more than once. If it so happens, the national income would work out to be many times

the actual. Flour used by a bakery is an intermediate product and that by a household the final product. To solve this difficulty, only the final goods and services are taken into account, and that is not so easy a task.

- (4) Income earned through illegal activities such as gambling, or illicit extraction of wine, etc. is not included in national income. Such goods and services do have value and meet the needs of the consumers. But by leaving them out, the national income workers out to less than the actual.
- (5) Then there arises the difficulty of including transfer payments in the national income. Individuals get pension, unemployment allowance and interest on public loans, but whether these should be included in national income is a difficult problem. On the one hand, these earnings are a part of individual income and on the other, they are government expenditure. To avoid this difficulty, these are deducted from national income.
- (6) Capital gains or losses which accrue to property owners by increases or decreases in the market value of their capital assets or changes in demand are excluded from the GNP because such changes do not result from current economic activities. It is only when capital gains or losses are the result of the current flow or non-flow of productive activities that they are included in the GNP. "Those changes in the value of goods that result from ungovernable or unpredictable causes are treated as accidental shifts that are outside current activity proper. Those changes in value that can be anticipated and insured, against, such as fire and flood, are also excluded because the adjustment for such shifts in value has already been charged against the operation of previous years through insurance premiums".
- (7) All inventory changes whether negative or positive are included in the GNP. The procedure is to take positive or negative changes in physical units of inventories and multiply them by current prices. Then this figure is added to total current production of the firm. But the problem is that firms record inventories at their original costs rather than at replacement costs. When prices rise there are gains in the book value of inventories. Contrariwise, there are losses when prices fall. So the book value of inventories overstates or understates the actual inventories. Thus for correct imputation of GNP, inventory evaluation is required. A negative valuation adjustment is made for gains and a positive valuation adjustment is made for losses. But inventory valuation is a very difficult and cumbersome procedure.
- (8) When we deduct capital depreciation from GNP, the resulting measure is NNP. Depreciation is a charge on profits which lowers national income. But the problem of estimating the current depreciated value of a piece of capital whose expected life is fifty years is very difficult. The usual practice on the part of firms is to base their depreciation provisions on the original cost of their assets. When prices of capital goods are changing, the annual depreciation provision will then measure the cost of using fixed assets for some fifty years (i.e., the time when the assets were bought) rather than the current cost of using them. Unlike inventories, a depreciation valuation adjustment is full of statistical difficulties, such as the age-composition of the whole capital stock, and changes in prices of capital goods every year since the assets were bought.

- (9) Another difficulty in calculating national income is that of price changes which fail to keep stable the measuring rod of money for national income. When the price level in the country rises, the national income also shows an increase even though the production might have fallen. On the contrary, with a fall in price level, the national income shows a decline even though the production might have gone up. Thus due to price-changes the national income cannot be adequately measured. To solve this difficulty, the statisticians have introduced the concept of real national income, according to which the prices of the year in question are assessed in terms of prices of the base year. But this does not solve the problem of calculating the national income, because the index numbers which measure the price-changes are just rough estimates. Thus the national income data are misleading and unreliable.
- (10) Moreover, the calculation of national income in terms of money is under-estimation of real national income. It does not include the leisure foregone in the process of production of a commodity. The incessant earned by two hours than the other would it be correct to some extent to say that the real income of the former has been understated. Thus national income does not take into consideration the actual cost of production of a commodity.
- (11) In calculating national income, a good number of public services are also taken which cannot be estimated correctly. How should the police and military services be estimated? In the days of war, the forces are active, but during peace they rest in cantonments. Similarly, to estimate the contribution made to national income by profits earned on irrigation and power projects in terms of money is also a difficult problem.

### 19.7 Importance of National Income Estimates:

National Income indicates the trend of economy whether a country is progressing or stagnant. If the national income increases over years it means that the economy is growing:

1. When we make use of income method for computing national income, It will let us know how the national income is distributed among the different factors of production, the income inequalities can be made clear and a change in the policy can be made to reduce the same.
2. National income estimated from output method shows the contributions made by the various sectors of the economy.
3. When the National Income is divided by the population of the country we get the average per capital income which is an indicator of the standard of living of people .
4. Based on international comparison of per capita incomes, countries can be classified as developed and under developed.
5. The problems of less developed countries are clearly analyzed by making use of national income estimates.
6. National income estimates are essential for proper formulation and implementation of economic plans. Aggregate consumption, savings and capital formation are all required in economic planning.

## 19.8 National Income Accounts of India:

The government made the Central Statistical Organization responsible for the estimation of national income.

In India, National Income is estimated by making use of two methods (1) Output Method, and (2) Income Method. The entire economy is divided into three categories.

1. **CATEGORY 'A':** Agriculture, forests, logging, fisheries, mines, minerals, extraction, registered industries, construction are included in this category. The value of inputs is deducted from the gross - value of output from these different economic activities, to arrive at the net value of output. This is the output method.
2. **CATEGORY 'B':** Electricity, Railways, Airways, Roads, Transport and Communication, Banking, Insurance, Real Estate, Public Administration, defence are included in this category. Compensation paid to employees, interest, rent, profit of different firms are estimated. This is the income method.
3. **CATEGORY 'C':** Unorganized industrial sector, gas, water supply, unorganized roads, storage, business, hotels and restaurants, houses and other services are included in this category. The average productivity of worker is multiplied with the number of workers to arrive at net value of output. This is also output method.

## 19.9 The Measurement of National Income in India:

For national income estimates, the Government of India has adopted the concept of national income almost similar to the one generally used in the Western countries. In the Report of Committee on Distribution of Income and Levels of Living, it has been specified that an estimate of national income is a measure of the total output of commodities and services during a given period, reckoned without duplication. In India, thus national product is defined as the aggregate of material and non material goods, whereas in socialist countries like the U.S.S.R., national product is considered as an aggregate of material goods only. Because of this conceptual difference, India's national income data cannot directly be compared with those of the socialist nations.

Again, till independence, no systematic efforts were made in our country to estimate national income.

India's national income data are obtainable from the National Accounts Statistics (NAS) published by the Department of Statistics of the Central Statistical Organization (CSO), Annual Reports of Currency and Finance of the Reserve Bank of India, and Annual Economic Surveys published by the Ministry of Finance, Government of India.

Following the universal practice, national income is measured in India at current prices as well as in constant prices.

**INDIAN METHOD OF MEASUREMENT OF NATIONAL INCOME:** A combination of output and income method is used in India for the national income estimate as follows:

**OUTPUT METHOD:** It is adopted for estimating the income generated from agriculture, animal husbandry, forestry, fishery, mining and factory establishments.

In using the output method, the procedure of value added approach has been adopted.

In agriculture, the gross value of the output is obtained as follows:

- (i) Total production of 64 agricultural commodities is estimated. The output of each crop is measured by multiplying the area sown by the average yield per hectare. By conducting crop - cutting experiments the average yield is estimated.
- (ii) The total output of each commodity so obtained is valued at market prices.
- (iii) The aggregate of the values of total output of these 64 commodities is taken to measure the gross value of agricultural output.
- (iv) The net value of the agricultural output is measured by making deductions for the cost of seed, manures and fertilizers, market charges, repairs and depreciation from the gross value.

Similarly, the gross values of the output of animal husbandry, forestry, fishery, mining and factory establishments are obtained by multiplying their estimates of total production with market prices. Net value of the output in these sectors is derived by making deductions for cost of materials used in the process of production and depreciation allowances, etc. from gross value of output.

Net value of each sector measured in this way indicates the net contribution of the sector to the national income.

**INCOME METHOD:** It is adopted for estimating the contributions of the remaining sectors, viz. Small enterprises, banking and insurance, commerce and transport, professions, liberal arts and domestic service, public authorities, house property and rest of the world (foreign sector).

The following procedure is used for obtaining the income generated in the small enterprise sector. The total number of persons engaged in different occupations is included under the small enterprise sector.

The average earnings per head are estimated by conducting a sample survey. The total income of the personal enterprise sector is obtained by multiplying the average earnings per head with the total number of persons engaged. To compute factor earning other than wages and salaries, an addition of 20 percent to the total money income is made. In this way the total income contributed by the small enterprise sector is arrived at. A similar procedure is adopted for obtaining the incomes generated in commerce and transport, professions, liberal arts and domestic services.

Regarding the income generated in the public sector, from the records of the public authorities, data of wages, salaries, dividends or surplus, etc., are obtained and aggregated.

For estimating the contribution of house property to the national income, the computed net rental of all houses in urban and rural areas is taken into account.

In this way, when contributions of all the different sectors are obtained, their aggregate value is measured, which gives the Net Domestic Product at factor cost.

When net indirect taxes are added to this, the Net Domestic Product at market prices is obtained.

Data on income from abroad (the rest of the world sector or foreign sector) are obtained from the account of the balance of payments of the country.

The net income from abroad is thus added to the Net Domestic Product at market prices to derive national income at market prices or current prices.

Owing to practical difficulties and other considerations, much of the economic activity is not reckoned in national income estimates at all. Transactions worth lakhs of rupees are made in gambling, bootlegging, smuggling, prostitution, etc. These go unreported because they are illegal. Similarly, even in legal activities, transactions in black money are also not reported.

### 19.10 CONCLUSIONS:

National Income implies the income received by the people of a country during a particular time period. It means the aggregate value of all the final goods and services produced in the country during a particular year. The GNP, GNP, NNP, NDP, NNP at factor cost. Personal income and disposable income are the major concepts of national income. The components of national income are consumption, investment, government and net value of international trade. Output method, Income method and Expenditure method are the major methods to compute national income. In India we use output method and income method. But expenditure method is the most reliable method.

### 19.11 POINTS TO REMEMBER:

1. By estimating national income, we can understand the economic property of the country.
2. On the basis of concepts of national income, Government prepares its economic policies.
3. National income is a flow concept and national wealth is a stock.
4. Output method, Income method and Expenditure methods are the methods for computing national income.

### 19.12 MODEL QUESTIONS:

1. Explain the various methods of computation of National Income.
2. Explain the importance of National Income estimation. What are the difficulties in the computation of National Income?
3. What are the various concepts of National Income?
4. Definitions of National Income?
5. What are the factors that determine national income?
6. Distinguish between Gross Domestic Product and Gross National Product.
7. Components of National Income?
8. National income Estimation in India?

### 19.13 REFERENCES:

1. Albrecht Marshall : Principles of Economics
2. J.R. Hicks : Social Frame Work
3. Paul A Samuelson : Economics of Welfare

## **Lesson : 20**

# **THEORIES OF INTERNATIONAL TRADE INTERNATIONAL TRADE ADVANTAGES - DRAWBACKS**

## **20.0 AIMS AND OBJECTIVES:**

After reading this lesson, you will be able to learn the following :

- \* What is meant by internal and international trade ?
- \* Distinctions between inter regional trade and international trade
- \* Advantages and drawbacks of International trade.

## **CONTENTS:**

- 20.0 Aims and Objectives**
- 20.1 Introduction of International Trade**
- 20.2 Internal Trade – International Trade**
  - 20.2.1 Is There Need For A Separate Theory of International Trade?**
  - 20.2.2 Distinguish Features of International Trade**
- 20.3 Factor Responsible for International Trade**
- 20.4 Advantages of International Trade**
- 20.5 Drawbacks of International Trade**
- 20.6 Summary**
- 20.7 Important Points to be Remembered**
- 20.8 Glossary**
- 20.9 Model Questions**
- 20.10 Suggested Readings**

## **20.1 INTRODUCTION OF INTERNATIONAL TRADE:**

The word 'trade' is commonly used to understand the exchange of good or merchandise among people. Basing on the exchange or dealing in goods, the trade can be explained in two types.

1. Internal or Domestic or regional trade.
2. External or foreign or international trade.



The trade that takes place within the geographical boundaries of a nation is called internal or domestic or intra-regional or home trade. Where as, on the other hand, the trade that takes place across the geographical boundaries or political frontiers is called as external or foreign or international trade. In brief, the trade within a nation is internal trade and between the nations is international trade. Each country will produce and export those commodities which are cheaper at home and import those commodities which are cheaper in other countries. So international trade is advantageous to both the countries. Economists are in opinion that international trade standard in the medieval period. The fundamental basis of international trade is that all countries in the world cannot produce all things equally well or cheaply due to un-equal distribution of natural resources and factors of production. Hence, international trade is advantageous to every country that took place in the trade.

## 20.2 INTERNAL AND INTERNATIONAL TRADE:

Internal domestic trade means transactions taking place within the geographical boundaries of a nation or region. It is also called as intra-regional or home trade. On the other hand trade among different countries or trade across political frontiers is known as international. International trade, thus, refers to the exchange of goods and services between one country or region and another. It is also sometimes known as “inter-regional” or “foreign” trade. In brief, trade between one nation and rest of the world is called “international” trade. Where as, trade between one nation and rest of the world is called “international” trade, where as trade within the territory (political boundary) of a nation “internal” trade.

International trade takes place due to various reasons such as :

1. Human wants and countries' resources do not totally consider in most of the countries in the world. Hence, there is interdependence of different countries.
2. Factor endowments of different countries are different.
3. Technological advancement of different countries differ. So, some countries are better placed in one kind of production and some others superior in some other kind of production.
4. There are differences in labour and entrepreneurial skills in different countries.
5. Factors of production are highly immobile between countries.

In nutshell, international trade is the outcome of territorial division of labour and specialisation in the countries of the world.

### 20.2.1 IS THERE NEED FOR A SEPARATE THEORY OF INTERNATIONAL TRADE?:

There are two views namely, (i) the classical view, and (ii) Ohlin's view to this question.

- (i) **THE CLASSICAL VIEW:** Classical economists believed that there was a fundamental difference between internal trade and foreign trade. They pointed out that there is free mobility of capital within a country but not between different countries. So international immobility of factors of production was the basic criterion accepted by the classical economists for the emergence of international trade. Further, different

national policies, different political units, different monetary systems, and artificial barriers like tariffs and exchange controls involved in international trade distinguish it from domestic trade. Hence, the classicists observed that the conditions which regulated the exchange of commodities within one such country did not apply to economic relations between different countries. Hence, a separate theory of international trade was necessary and justified.

- (ii) **OHLIN'S VIEW:** Ohlin viewed that difference in factor endowments of nations and production in different goods require different factor proportions. So these factor endowments and different production functions of different goods are responsible for a separate theory of international trade.

**20.2.2 DISTINGUISH FEATURES OF INTERNATIONAL TRADE:** There are certain special features of international trade which distinguish it from internal trade. These unique features of international trade show that international trade follows different laws of behaviour from those of domestic trade. Therefore, a separate theory of international trade is essential. The unique attributes or features of international trade are :

- 1. IMMOBILITY OF FACTORS OF PRODUCTION:** The factors of production especially labour and capital are less mobile or immobile between the nations, whereas, they are more mobile within the domestic country. Immigration laws and other restrictions are obstacles in the international mobility of labour. International flow of capital are also severely restricted by different countries. The principles which determine the course and nature of domestic and international trade are bound to be different, at least in some respect. Due to inter-country immobility of factors, there may be permanent difference between the cost of production of a commodity in one country and the price obtained in a different country for it. Today this argument is considered out-moded. However, it is still true that due to legal or other restrictions, inter country movement of factors is very less as compared to intra-country movements. This difference necessitate separate treatment of international trade.
- 2. DIFFERENT CURRENCIES:** It is another main difference between domestic and international trade. Within the domestic territory of a country the transactions are carried on with single currency. So that there are no difficulties in making payments in domestic trade. But different countries have different currencies. Therefore, a number of foreign exchange difficulties or problems arise in international trade. Sometimes the scarcity of foreign exchange limits the volume of imports from other countries. Variation in exchange rates also poses certain problems. Fluctuations in exchange rate may also lead to changes in economic policies of a country. Hence difference in currencies give rise to a unique set of problems. Therefore, a separate study of monetary aspect of international trade is needed.
- 3. RESTRICTIONS ON IMPORTS AND EXPORTS:** There are no restrictions on the flow of trade within different regions of a country contrary to it, there are a number of restrictions on inter-country trade. In addition, exports and imports duties, quotas restrictions are also imposed by different countries on the imports of various goods from different countries.

4. **HETEROGENEOUS MARKETS:** Markets are not uniform in nature from one country to another due to differences in tastes, habits, fashions, customs, preferences, language etc., the behaviour of international buyers in each case, therefore, be different such differences may also be present in markets of various parts of the same country. Here this difference is of degree only and not of kind.
5. **DIFFERENT NATIONAL ENTITIES:** Different national entities giving rise to sovereign states also call for separate analysis of international trade. A nation is a separate unified group characterised by feelings of nationality. The socio-economic environment differ greatly from country to country, while it is more or less uniform within a country.
6. **DIFFERENT NATIONAL POLICIES AND GOVERNMENT INTERVENTION:** The policies with regard to trade, commerce, industry, taxation etc. are more or less same within a country, but differ widely in different countries. The international trade and commerce policy adopted by a country interfere with the course of normal trade between it and other countries. Thus, government intervention causes different problems in international trade while the value theory in its pure form, which assumes non-interference, cannot be applied completely in the international trade policy.
7. **BALANCE OF PAYMENTS ADJUSTMENT PROBLEMS:** One unique problem of international trade is that of attaining equilibrium in balance of payments position. The economic policies adopted by a country to correct to adverse balance of payments dis-equilibrium gives rise to a number of other problems. Should a deficit-country try to improve its balance of payments position by devaluation, deflation, or by direct measures ? These questions do not arise in case of domestic trade.
8. **DIFFERENCE IN PRODUCTION CONDITIONS:** The production conditions also differ from country to country. This can be due a number of reasons. One country can be more advanced than another in science and technology. Thus, the production cost will be lower in the former country. Besides, the production costs of the same commodity can be different in two countries due to differences in economic policies of the two countries. It is an account of differences in the cost of production that international trade takes place.
9. **DIFFERENCE IN NATURAL RESOURCES AND GEOGRAPHICAL CONDITIONS:** There are differences in the natural resources and geographical conditions of the two countries. One country can be endowed with greater and more abundant natural resources than another. Thus, on account of these differences the production cost of the same commodity can be different in two countries.

### 20.3 FACTORS RESPONSIBLE (BASIS) FOR INTERNATIONAL TRADE:

Whether inter-regional or international the difference in the prices of goods and services between different regions or countries is responsible for all trades. Each country will export that commodity which is relatively cheaper at home than abroad and vice-versa. The difference in the relative prices of goods between different countries is the basis of international trade. Generally,

certain goods are relatively cheaper in one country while certain other goods are relatively are cheaper in other countries. The reasons may be due to differences in either supply conditions (cost of production) or in the demand conditions in two countries. The following are some basic factors responsible for international trade.

1. **DIFFERENCES IN THE COST OF PRODUCTION:** Both classical theory of comparative cost as well as the Heckscher-Ohlin theory of international trade, the differences in the relative prices of commodities in different countries is due to differences in the cost of production. Classical felt that comparative differences in production costs differ in different countries due to geographical division of labour and specialisation in production due to differences in climate, natural resources, geographical situation and efficiency of labour, a country can produce one commodity at a lower cost than the other. To classical economists, the differences in comparative costs arise mainly due to differences in skill and efficiency of labour.

Heckscher-Ohlin theorem states that the differences in comparative costs arises due to (i) difference in factor endowments of nations and (ii) production of different goods require different factor-proportions; i.e., production functions for different goods are different. The production of those goods which require greater use of the abundant resources and lesser use of scarce resources will be relatively cheap in the country. On the contrary, the production of these commodities which need greater use of scarce factors and smaller use of abundant factors will be costly or dear in the country. If the situation is such that the goods costly in are country one cheap in the other country and vice-versa trade will take place to the mutual advantage of both the countries. However, both these theories ignored demand and other factors which cause international trade.

2. **DIFFERENCES IN DEMAND:** The demand conditions may reverse the direction of foreign trade expected on the basis of cost considerations alone. Due to the influence of demand a country may import a good in spite of the fact that the country produces the product comparatively at low cost from the other country. This will happen when the consumers have a strong preference for the commodity produced at low cost. For example, country A may import X-commodity to meet the high domestic demand for X-commodity inspite of the fact that country A products X-commodity at low cost.
3. **DIFFERENCE IN TECHNOLOGY:** The differences in prices of goods in different countries may arise due to differences in technology among different countries. This technological innovation in a country helps in reducing the cost and price of goods. Other things remaining constant, as a result of technology upgradation the production possibilities curve of the country shifts upward. So that, the country may begin to export a commodity which was imported before technological innovation.
4. **PRODUCTION DIFFERENTIATION:** The classical and the Heckscher-Ohlin theories assumed that the goods traded were homogeneous products. It means these countries did not pay any attention to product differentiation factor in international trade. But the product differentiation is also an important cause of international trade. A large proportion of trade between developed countries relates

to the imports and exports of the differentiated products. For example, Italian Fiats are exported to England while U.K. Fords are exported to the Italy.

5. **ENTREPRENEURSHIP:** Both the classical and Heckscher – Ohlin theories ignored the role of entrepreneurship in trade between different nations. In the present world, the modern multi-national corporations dominate the international trade. Administrative skill and organisational ability of high order plays a vital role in the success of giant corporations. Thus, entrepreneurial and organisational ability plays a vital role in international trade.
6. **STAGE OF ECONOMIC DEVELOPMENT:** The stage of development is also affects the movement of goods between countries. Backward regions carry little trade, either among themselves with other countries. But among more advanced with high degree of development, there is a greater volume of trade. The U.K., one of the most advanced nations of the world, buys food grains, raw materials and semi-manufactured goods from other countries and export finished goods. Development of industries, transports, agriculture, etc., helps in the expansion of trade. Thus, the volume of international trade is very much affected by the stage of development.
7. **FOREIGN INVESTMENT:** The firms and corporations of industrialized nations find it profitable to invest huge amount of money in foreign countries to obtain necessary raw materials and export their products to other countries. These foreign corporations also imports manufactured good. For example, most of the iron ore, tin, copper, lead, zinc and other minerals of South America, Africa and South-East Asia were developed by foreign investment. It is, therefore, clear that foreign investment has been an important factor for the promotion of international trade.
8. **TRADE AND FINANCIAL CONTROLS:** Different kinds of controls have affected the flow of trade between countries. A country may impose controls on its international trade to correct its adverse balance of payments position. No, protect its domestic industries against foreign competition and to get revenue through customs duties. All types of controls restrict and hinder international trade. At present, there is no country which does not exercise such controls in different degrees.
9. **OTHER FACTORS:** In addition to the above, political affiliations of countries, government policies affecting prices of goods, the existence of IMF, World Bank, the Export-Import Bank, etc. also influence international trade. The existence of innovatin gap may also greatfully influence production and trade. A country having innovative advantage can export new and technically advance products.

Thus we may say that all those factors which affect and may affect the demand and supply condition in different countries also affect the international trade. The difference in the relative prices of goods between different countries may be due to differences either in supply conditions or in the demand conditions in the two countries.

## 20.4 ADVANTAGES OF INTERNATIONAL TRADE:

Expanding global economy has emerged in the modern world owing to the growth of foreign trade of all nation. International trade of goods, services and assets serves as the most powerful linkages – interdependence among the various national economics. Today, countries all over the world are becoming more closer and coordinated which has complex network of growing economic interdependence as well as cordial political and social relations developed under the expanding global trade in a liberalised environment.

- (1) **OPTIMUM ALLOCATIONS OF WORLD RESOURCES:** International specialisation and geographical division of labour leads to the optimum allocation of world's resources, making it possible to make the most efficient use of them.
- (2) **GAINS OF SPECIALISATION:** Each trading country gains when the total output increases as a result of division of labour and specialisation. These gains are in the form of more aggregate production. Larger number of varieties and greater diversity of qualities of goods that become available for consumption in each country as a result of international trade.
- (3) **ENHANCED WEALTH:** Increase in the exchangeable value of possessions, means of enjoyment and wealth of each trading country.
- (4) **LARGER OUTPUT:** Enlargement of world's aggregate output.
- (5) **WELFARE CONTOUR:** Increase in the world's prosperity and economic welfare of each trading nation.
- (6) **CULTURAL VALUES:** Cultural exchange and ties among different countries develop when they enter into mutual trading.
- (7) **BETTER INTERNATIONAL POLITICS:** International trade relations help in harmonising international political relations.
- (8) **DEALING WITH SCARCITY:** A country can easily solve its problem of scarcity of raw materials of food through imports.
- (9) **ADVANTAGEOUS COMPETITION:** Competition from foreign goods in the domestic market tends to induce home products to become more efficient to improve and maintain the quality of their products.
- (10) **LARGER SIZE OF MARKET:** Because of foreign trade, when a country's size of market expands, domestic producers can operate on a larger scale of production which results in further economics and thus can promote development. Synchronised application of investment to many industries simultaneously become possible. This helps industrialisation of the country along with balanced growth.

After that, and further : Above all, foreign trade is regarded as a engine growth. Export-led growth strategies of development adopted by many developing countries – especially in the Far East region : Singapore, Malaysia, Thailand, Indonesia etc. have achieved miraculous economic advancement in recent years.

## 20.5 DRAWBACKS OF INTERNATIONAL TRADE:

When a country places undue reliance on foreign trade, there is a likelihood of the following disadvantages:

1. **EXHAUSTION OF RESOURCES:** When a country has larger and continuous exports, her essential raw materials, and minerals may get exhausted, unless new resources are tapped or developed (e.g., the near exhausting oil resources of the oil-producing countries).
2. **BLOW TO INFANT INDUSTRY:** Foreign competition may adversely affect new and developing infant industries at home.
3. **DUMPING:** Dumping Techniques such as used by advanced countries may hinders the development of poor countries.
4. **DIVERSIFICATION OF SAVINGS:** A high propensity to import may cause reduction in the domestic savings of a country. This may adversely affect her rate of capital formation and the process of growth.
5. **DECLINING DOMESTIC EMPLOYMENT:** Job opportunities available to people are curtailed, when a country tends to specialise in a few products.
6. **OVER INTERDEPENDENCE:** Foreign trade discourage self-sufficiency and self-reliance in an economy. When countries tend to be interdependent, their economic independence is jeopardized.

Due to these reasons, there is no free trade in the world. Each country puts some restrictions on its foreign trade under its commercial and political policies.

## 20.6 SUMMARY:

The trade that takes place within the boundaries of a country is internal trade and across the boundaries is international trade. There are certain similarities and differences in between these two trades i.e., internal and international trade. Due to the differences, a need of separate analysis or separate theory of international trade has arised. Though the countries which participates in international trade will benefit in so many ways. However, there are certain drawbacks also.

## 20.7 POINTS TO BE REMEMBERED:

1. The trade that takes place within the boundaries of a country is internal trade and across the boundaries of a country is international trade.
2. The features of international trade is different hence there is a need of special analysis for international trade.
3. Natural advantages, demand conditions, techniques of productions, price levels, Government interference in economic affairs etc are responsible for international trade.
4. There are several economic gains from international trade. However, undue dependence may lead to several drawbacks.

**20.8 GLOSSARY:**

1. **Internal Trade** : Trade that takes place within the boundaries of a country.
2. **International Trade** : Trade that takes place across the boundaries of a country.
3. **Comparative Advantage** : The special ability of a country to provide a particular commodity and services relatively at lower cost.

**20.9 MODEL QUESTIONS:****I. ESSAY TYPE QUESTIONS:**

1. Distinguish between internal and international trade? What are the reasons for international trade.
2. Is there need for a separate theory of international trade – Discuss.

**II. SHORT QUESTIONS:**

3. Distinctions between domestic and foreign trade.
4. What are the advantages from international trade ?
5. What are the drawbacks from international trade.

**20.10 SUGGESTED READINGS:**

1. B.O. Soderston : International Economics
2. David Young : International Economics
3. Stephen Eric : International Economics
4. Varma and Agarwal : Macro Economics



## **Lesson : 21**

# **THEORIES OF INTERNATIONAL TRADE TERMS OF TRADE**

### **21.0 AIMS AND OBJECTIVES:**

After completing the lesson, you will be able to understand the following :

- \* Distinction between absolute cost advantage and comparative cost advantage.
- \* Classical Theory of International Trade
- \* Modern Theory of International Trade
- \* Terms of Trade-Different Kinds of Measurements
- \* Factors Affecting terms of Trade
- \* Shortcomings involved in measuring terms of Trade.

### **CONTENTS:**

- 21.0 Aims and Objectives**
- 21.1 Introduction**
- 21.2 Comparative Cost Theory or Classical Theory of International Trade**
- 21.3 Modern Theory of International Trade or Hecksher – Ohlin Theory**
- 21.4 Terms of Trade**
- 21.5 Factors Effecting Terms of Trade**
- 21.6 Problems involved in Measuring Terms of Trade**
- 21.7 Summary**
- 21.8 Points to be Remembered**
- 21.9 Glossary**
- 21.10 Model Questions**
- 21.11 Suggested Readings**

### **21.1 INTRODUCTION:**

Every country in the world exports certain commodities and imports certain commodities. A country generally exports those commodities in which she has advantage in production and imports those which have dis-advantage. The two important theories that explains the international trade are classical theory of international trade and modern theory of international trade.

The terms of trade refers to the rate at which a country exchanges its exports for imports. Various kinds of terms of trade, factors affecting terms of trade, difficulties in calculating terms of trade etc. are discussed in this lesson.

## 21.2 THE CLASSICAL THEORY OF INTERNATIONAL TRADE:

The classical theory of international trade also called as the Theory of Comparative Costs. This theory is an application of the principle of division of labour to the production of goods by different countries. The classical theory states that international trade develops with geographical (country wise) specialization in the production of various goods which is reflected through the differences in their comparative costs of production between any two countries.

The seeds of this theory are found in the writings of Adam Smith. He explained this principle as the law absolute cost advantage. But, the credit goes to Ricardo in formulating an explicit and precise theory in terms of the "comparative cost doctrine". Afterwards, the doctrine of comparative costs has gone through many improvements and refinements at the hands of eminent economists like J.S. Mill, Cairnes and Bastable. In modern times, it has been recast by Taussig and Haberler also.

- a) **Adam Smith - The Law of Absolute Cost Advantage:** Adam Smith developed this theory of international trade in support of free trade by stressing the advantages of division of labour. Since division of labour is very advantageous in production, he supported free international trade is desirable because it promotes international division of labour, so that each country to specialize in those goods which it is best suited to produce most cheaply. He opined that free trade between countries brings about an optimum allocation of the productive resources of the world.

Adam Smith developed the law of absolute cost advantage for international trade. He states that trade occurs between two countries if one of them has an absolute advantage in producing one commodity and the other country having absolute advantage in producing some other commodity. To explain the following illustration gives clarity of the point. Suppose there are two countries A and B. For simplicity's sake, like the classical economists, we shall measure all costs in terms of labour. Then, if in country A, one unit of labour per day can produce, let us say, 25 barrels of wine or 10 bales of cloth, in B, the same amount of labour can produce 10 barrels of wine or 15 bales of cloth. The position then is as follows in Table 21.1.

**Table 21.1**

### **Production of One Unit of Labour per Day**

<b>Products</b>	<b>in A</b>	<b>in B</b>
Wine	25 Barrels	10 Barrels
Cloth	10 Bales	15 Bales

Statistics in above table states that A has an absolute cost advantage over B in the production of wine (for 25 barrels are more than 10 barrels), while B has an absolute advantage over A in the production of cloth (for 15 bales are more than 10 bales).

Thus, country A will specialize in the production of wine in which it has an absolute cost advantage over B and country B will specialize in producing cloth in which it has an absolute advantage over A. The trade between the two countries, then, will benefit both of them. As it is easy to see, with 2 units of labour, A will now produce 50 barrels of wine and B 30 bales of cloth as a result of specialization and international trade. In the absence of this, there will be only 35 barrels of wine and 25 bales of cloth produced by both the countries with their given 2 units of labour.

Though Smith's theory is clearly expressed, it is not convincing. It is based on the assumption that international trade required a producer of exports to have an absolute cost advantage; that is, an exporting industry must be able to produce with a given amount of capital and labour, a larger output than any rival. But then, what about the export phenomenon of a country having no such clear superiority in any line of production? This may be the case of a relatively backward country whose factors of production, as compared with those of any other developed nation, are inefficient in all lines of production. There is no absolute advantage for such a backward country and yet we find that it has international economic relations. Adam Smith's theory clearly fails to analyse this sort of situation. Hence, i.e., The doctrine of comparative costs has developed by Ricardo.

- B) RICARDO - THE DOCTRINE OF COMPARATIVE COSTS:** David Ricardo in his principles of Political Economy (1817) furnished a more precise formulation of the theory of international trade known as principle of comparative advantage or "doctrine of comparative costs."

This doctrine was developed by Ricardo out of his (classical) labour theory of value. According to this theory, the value of any commodity is determined by its labour costs. It asserts that goods are exchanged against one another according to the relative amounts of labour embodied in them. For the prices of goods within a country are proportional to the relative quantities of labour contained by them. Thus, the exchange ratios or prices are determined solely by relative labour costs, through their influence upon supply and demand.

The labour cost principle is, however, based on the following assumptions that:

1. Labour is the only productive factor,
2. All labour is of the same quality and characteristics.
3. Labour has perfect mobility.
4. There is perfect competition in the labour market.

Ricardo thus thought that the labour theory of value, which is completely valid for the domestic trade of a country, cannot be applied to international trade, since factors of production are immobile internationally.

Ricardo developed his Doctrine of Comparative costs. According to the theory of comparative costs, international trade takes place because different countries

have different advantages (efficiency) in the production (specialization) or different commodities. A country will specialize in the production of that commodity in which it has a greater comparative advantage or its comparative disadvantage is the least. It comparative advantage, and import the commodity in which its advantage is less or in which it has a comparative disadvantage.

**RICARDO'S THEORY:** Ricardo stated that, ceterus paribus, a country tends to specialise in and export those commodities in the production of which it has maximum comparative cost advantage or minimum comparative disadvantage. Similarly, the country's imports will be of goods having relatively less comparative cost advantage or greater disadvantage.

**ASSUMPTION OF RICARDIAN MODEL:** Ricardo constructed a two-country, two-commodity, but one-factor model basing following assumptions:

- 1) Labour is the only productive factor.
- 2) Costs of production are measured in terms of the labour units involved.
- 3) Labour is perfectly mobile within a country but immobile.
- 4) Labour is homogeneous.
- 5) There is unrestricted or free trade.
- 6) There are constant returns to scale.
- 7) There is full employment equilibrium.
- 8) There is perfect competition.
- 9) Transport cost element ignored.

Under these assumptions, let us assume that there are two countries A and B and two goods X and Y to be produced.

Now, to illustrate and elucidate comparative cost difference, let us take some hypothetical data and examine them as follows.

**ABSOLUTE COST DIFFERENCE:** As Adam Smith pointed out, if there is an absolute cost difference, a country will specialise in the production of a commodity having an absolute advantage (see Table 21.2).

**Table – 21.2**

**Cost of Production in Labour Units**

	Country A	Country B	Comparative Cost Ratio
Commodity X	10	21	$10/21 = 0.5$
Commodity Y	21	10	$21 / 10 = 2$
Domestic Exchange Ratio	$1X = 1/2Y$	$1X = 2Y$	

It follows that country A has an absolute advantage over B in the production of X while B has an absolute advantage in producing Y. As such, when trade takes place, A specialises in X and exports its surplus to B and B specialises in Y and exports its surplus to A.

**EQUAL COST DIFFERENCE:** Ricardo argues that if there is equal cost difference, it is not advantageous for trade and specialisation for any country in consideration.

**Table 21.3**  
**Cost of Production in Labour Units**

	Country A	Country B	Comparative Cost Ratio
Commodity X	10	15	$10 / 15 = 0.66$
Commodity Y	21	30	$21 / 10 = 0.66$
Domestic Exchange Ratio	$1X = \frac{1}{2} Y$	$1X = \frac{1}{2} Y$	

On account of equal cost difference, the comparative cost ratio is the same for both countries, so there is no reason for undertaking specialisation. Hence, the trade between these two countries will not take place.

**Comparative Cost Difference:** Ricardo emphasised that under all conditions, it is the comparative cost advantage which lies at the root of specialisation and trade (see Table 21.4).

**Table 21.4**  
**Cost of Production in Labour Units**

	Country A	Country B	Comparative Cost Ratio
Commodity X	10	15	$10 / 15 = 0.66$
Commodity Y	21	25	$21 / 25 = 0.80$
Domestic Exchange Ratio	$1X = 0.5Y$	$1X = 0.6Y$	

It will be seen that country A has an absolute cost advantage in both the commodities X and Y. However, A possesses a comparative cost advantage in producing X. For, comparatively, country A's labour cost involved in producing 1 unit of X is only 66 per cent of B's labour cost involved in producing X, as against that of 80 per cent in the case of Y.

On the other hand, country B has least comparative disadvantage in production of Y, though she has absolute cost disadvantage in both X and Y.

It should be noted that, to know the comparative advantage, we have to compare the ratio of the costs of production of one commodity in both countries

(i.e., 10/15 in the case of X in our example) with the ratio of the cost of producing the other commodity in both countries (i.e., 21/25 in the case of Y in our example). To state algebraic terms:

If in country A, the labour cost of commodity X is  $X_a$  and that of Y is  $Y_a$ , and in B, is  $X_b$  and  $Y_b$  respectively, then absolute differences in cost can be expressed as

$$X_a/X_b < 1 \quad Y_a/Y_b$$

(which means that country A has an absolute advantage over country B in commodity X and country B has over A in commodity Y). And, comparative differences in costs are expressed as

$$X_a/X_b < Y_a/Y_b < 1$$

(which implies that A possess an absolute advantage over country B in both X and Y, but it has more comparative advantage in X than Y). If, however, there is an equal cost difference, i.e.,  $X_a/X_b = Y_a/Y_b$ , there will be no international trade between the two countries.

In our illustration, since country A has comparative cost advantage in commodity X, as per Ricardo's theorem, this country should tend to specialise in X and export its surplus to country B in exchange for Y (i.e., import of Y from B). Correspondingly, since country B has least cost disadvantage in producing Y, she should specialise in Y and export its surplus to A and import X.

**GAIN ATTRIBUTES OF INTERNATIONAL TRADE:** It further follows that when countries A and B enter into trade, both will gain. In the absence of trade, domestically in country A,  $1X = 0.5Y$ . Now, if after trade, assuming the terms of trade to be  $1X = 1Y$ , country A gains 0.5 unit more. Similarly, in country B,  $1X = 0.6Y$  domestically, after trade, its gain is 0.4Y.

In short, "each country can consume more by trading than in isolation with a given amount of resources." Indeed, the relative gains of the two countries will be conditioned by the terms of trade and one is likely to gain proportionately more than the other but it is definite that both will gain.

In fact, the principle of comparative costs shows that it is possible for both the countries to gain from trade, even if one of them is more efficient than the other in all lines of production. The theory implies that comparative costs are different in different countries because the abundance of factors which may be necessary for the production of each commodity does not bear the same relation to the demand for each commodity in different countries. Thus, specialisation based on comparative cost advantage clearly represents a gain to the trading countries in so far as it enables more of each variety of goods to be produced cheaply by utilising the abundant factors fully in the country concerned and to obtain relatively cheaper goods through mutual international exchange.

It is obvious that the comparative costs doctrine is simply an extension of the principle of the division of labour. It advocates geographical specialization through

country-wise (territorial) division of labour, or localization of industries. However, it constitutes a real improvement over Adam Smith's law of absolute advantage as the basis of international trade. It is more general and seeks to cover situations having no absolute advantages. It includes in it also Adam Smith's formulation of a country having absolute and comparative advantages together as a special case of study. Further, the comparative costs principle also tried to give a more convincing and adequate proof of the gains of international trade.

**MONEY COST APPROACHED TO COMPARATIVE ADVANTAGE:** As we have seen, the Ricardian doctrine of comparative costs of production was explained in terms of labour cost of production. However, the modern economy is a money economy, and in actual transactions money cost is the determining factor. International trade is therefore, determined by absolute differences in money prices rather than comparative differences in labour cost. But, as Prof. Taussig said, we can easily translate comparative differences in labour cost of commodities into absolute differences in prices without affecting the real exchange relations between commodities. For this, let us take the following illustration:

**SUPPOSE, IN COUNTRY A:**

1 day's labour produces 21 units of wine, and

1 day's labour produces 21 units of cloth, while in country B :

1 day's labour produces 10 units of wine, and

1 day's labour produces 15 units of cloth.

Thus, country A has an absolute superiority in producing both the commodities but it has a comparative advance in wine. Hence, country A will specialise in wine. Country B has comparative advantage in cloth, so it will specialise in cloth.

In order to convert labour costs into money costs let us take daily wages into account, which we may assume to be Rs. 100 in country A and Rs. 80 in country B. Thus,

**Table 20.5**

**Money Cost of Commodities**

Country	Product of	Daily wage = Money Cost per Day's Labour Rs.	Money cost = Supply Price per Unit of Output (Rs.)
A	21 Units of wine	100	5.00
	21 Units of cloth	100	5.00
B	10 Units of Wine	80	8.00
	15 Units of Cloth	80	5.33

It is easy to see that the money cost (or price) of producing wine is lower in country A as compared to that in B (in A it is Rs. 5 per unit, while in B it is Rs. 8 per unit). In view of the Ricardian comparative costs theory, whether we compare money costs or labour costs, it may be implied, thus, that, country A will specialise in the production of wine and export it to B. On the other hand, B has a relatively less disadvantage in money cost of producing cloth. Hence, B will specialise in the production of cloth and export it to A.

It may be criticised that the above result is obtained because we have arbitrarily chosen the wage rates. But the objection holds no water under our assumption, there will always be an upper and lower limit within which the ratio of money wages between the two countries must lie. It is only the choice of one or other of the ratios within these limits which is arbitrary. But these limits to the wage rate differences are not arbitrarily chosen. They are fixed by the comparative efficiency of labour in each country.

When we assume that the daily wage in country B is Rs. 80, then the daily wage in A cannot exceed Rs. 160 (i.e., it cannot be more than double B's wage). This upper limit is fixed by the cost advantage of A in wine (21 to 10). A's superiority over B in producing wine is two times. Therefore, if the wage rate in B is Rs. 80 A's wage rate cannot be twice as high as in B, i.e., wage rate in A cannot exceed Rs. 160 (= 2 x Rs. 80). Hence, if A's wage rate rises to Rs. 160, its price per unit of both wine and cloth would be Rs. 8. Then, its export of wine will be unprofitable. However, it will continue to import cloth from B (for it cheaper than the domestic price). As a result, A's balance of payments for cloth will increase and cause outflow of gold. This flow of gold will raise prices and wages in B and lower the same in A. Eventually, the direction of trade will be the same as before and comparative costs advantage will reassert itself but with a narrow range of trade and gain from trade than before.

Similarly, we can find that the daily wage in A cannot be lower than Rs. 60 (i.e., it cannot be less than  $\frac{3}{4}$  of B's wage rate). For, this lower limit is fixed by the cost advantage of A in cloth (21 to 15). If wages fall to Rs. 60 in A, there will be again one-sided trade. Now A would be exporting wine without any reciprocal import of cloth. There will be an outflow of gold from B to A. Thus, prices and wages will rise in A and fall in B, till a new position of comparative advantage is reached.

We, however, cannot say from the cost data alone where exactly within these limits the ratio of wages in two countries and therefore the international terms of trade for the two commodities will settle. At the most it may be stated that : wages must be higher in the country of superior efficiency (enjoying comparative advantage) by somewhat more than the ratio of least cost advantage, but it should be somewhat lower than the ratio of greatest cost advantage to avoid one-sided trade phenomenon. The Ricardian theory of comparative costs thus left us halfway. Later on; it is J.S. Mill who made an important addition to this theory by introducing the principle of 'the equation of reciprocal demand'. He pointed out that the exact ratio of wages and terms of trade is determined by the conditions of demand, by the fact that the total value of each country's exports must equal the total value of its imports.



**A CRITICAL EVALUATION OF COMPARATIVE COSTS DOCTRINE:** Perhaps the most celebrated doctrine of the classical economics is the theory of comparative costs. Ricardo's doctrine of comparative advantage furnishes a logical explanation of the pattern of trade.

1. The Theory is Stated in Real Terms and in terms of the Labour cost.
2. The Ricardian Theory of Comparative Costs Based on the Labour Theory of Value which itself is Unrealistic.
3. The Ricardian Theory Wrongly Assumes Labour as a Homogeneous Factor.
4. The Theory is Based on Constant Returns to Scale.
5. It is Based on the Unrealistic Assumption of Full Employment Condition of Equilibrium. Keynes who falsified the celebrated assumption of full employment of classical economists as unrealistic. To that extent, the comparative cost theory is obviously unrealistic.
6. The Ricardian Theory of Comparative Costs Ignores Transport Cost Differences.
7. The Ricardian model is restrictive in operation as it relates to two commodities and two countries only. In actual practice, international trade is among many countries with many commodities. A scientific rational theory should not have such limitations.
8. It is only a Supply-side Theory.
9. An important factor in international trade, ignored by the Ricardian model, is that actual imports and exports are greatly influenced by tariffs and a variety of other trade restrictions. Thus, as a champion of free trade, Ricardo moved away from reality.
10. The theory is Based on Unrealistic Assumptions of Perfect Mobility. Ohlin rejects the classical assumption of the immobility of factors of production between countries as the basis of international trade. For him, immobility of factors is not a special feature of international trade, it is also prevalent within the different regions of the same country.
11. Professor Bertil Ohlin objects to the theory of comparative costs as an explanation of international trade, for, in his view, the comparative cost principle was applicable to all trade and that international trade was no exception to it. He thus regards the classical doctrine of comparative costs as a clumsy and dangerous tool of analysis. It is also unrealistic as it considers only a two-country, two-commodity phenomenon based on the labour theory of value. Hence, Ohlin propounded a new theory of international trade based on the general theory of value.

### 21.3 MODERN THEORY OF INTERNATIONAL TRADE:

Bertin Ohlin in his book "Interregional and International Trade" (1933) criticised the classical theory of international trade and formulated the *General Equilibrium Theory of International Trade*. It is also called as the *Modern Theory of International Trade* or the Hecksher-Ohlin Theorem. In fact, it was Eli Hecksher, Ohlin's teacher, first propounded the idea and Ohlin formulated build the modern theory of international trade.

#### STATEMENT OF THE THEORY:

Ohlin, international trade "as a special case of inter-local or inter regional trade". Therefore, international values are determined in the same way as the prices of commodities are determined in international trade. The basis of determination of prices in internal trade is the general equilibrium of demand and supply which is also applicable to international trade.

According to Ohlin, the main determinant of pattern of production, specialisation and trade among regions is the relative availability of factor supplies. Regions or countries have different factor endowments and factor supplies. "Some countries have much capital, others have much labour. The theory now says that countries that are rich in capital will export capital-intensive goods and countries that have much labour will export labour-intensive goods". To Ohlin, the immediate cause of international trade always is that some commodities can be bought more cheaply from other regions, whereas in the same region their production is possible at high prices. Thus the main cause of trade between regions is the difference in prices of commodities.

The following are the assumptions of Heckscher – Ohlin Theorem.

#### ASSUMPTIONS OF THE THEORY:

- (1) It is a two-by-two model, i.e., there are two countries (A and B), two commodities (X and Y), and two factors of production (capital and labour).
- (2) There is perfect competition in commodity as well as factor markets.
- (3) There is full employment of resources.
- (4) There are quantitative differences in factor endowments in different regions, but qualitatively they are homogeneous.
- (5) The production function of the two commodities have different factor intensities, i.e., labour-intensive and capital-intensive.
- (6) The production functions are different for different commodities, but are the same for each good in both countries. It means that the production function of commodity X is different from commodity Y. But the technique used to produce commodity X in both countries is the same, and technique used to produce commodity Y in both countries is the same.
- (7) There is perfect mobility of factors within each region but internationally they are immobile.
- (8) There are no transport costs.

- (9) There is free trade between the two countries.
- (10) There are constant returns to scale in the production of each commodity in each region.
- (11) Preferences of consumers and their demand patterns are identical in both countries.
- (12) There is no change in technological knowledge.

### THE OHLIN THEOREM:

Basing these assumptions, Ohlin contends that the immediate cause of international trade is the difference in relative commodity prices caused by differences in relative demand and supply of factors (factor prices) as a result of differences in factor endowments between two countries. Fundamentally the relative scarcity of factors – the short-age of supply in relation to demand – is essential for trade between two regions. Commodities which use large quantities of scarce factors are imported because their prices are high, while those using abundant factors are exported because their prices are low.

Ohlin elucidates his theory of factor proportions by giving an illustration of trade between England and Australia. In Australia, land is an abundance but labour and capital are relatively scarce. Thus land is cheap and other factors are relatively expensive. Therefore, commodities requiring relatively more land but less capital and labour can be produced cheap in Australia, such as wheat, wool, mutton, etc. on the contrary, capital is relatively abundant and cheap in England, while land is scarce and dear. Thus commodities which require more capital, such as manufacturers, can be produced cheap in England. Australia will therefore specialise in the production of wheat, wool, mutton, etc., and export them to England and import manufacturers in which England will specialise. International trade emerges in this way, according to Ohlin.

*Factor Abundance in terms of Factor Prices.* Ohlin explains richness in factor endowment in terms of factor prices. According to his definition, country A is abundant in capital if  $(P_C/P_L)_A < (P_C/P_L)_B$ , where  $P_C$  and  $P_L$  refer to prices of capital and labour, and the subscripts A and B denote the two countries. In other words, if capital is relatively cheap in country A, the country is abundant in capital, and if labour is cheap in country B, the country is abundant in labour. Thus country A will export the capital-intensive good and country B will export the labour-intensive good. This is illustrated in Figure.

Let X be the capital-intensive commodity and Y the labour intensive commodity. XX and YY are the two isoquants which characterise their production functions and are the same in both countries. Relative factor prices in country A are given by the line PQ. Assuming that the isoquants represent 1 unit of the respective commodity, then 1 unit of commodity X will be produced with OC of capital and OL of labour. But capital and labour can be exchanged for each other in a ratio shown by the factor-price line PQ. Taking PQ as a budget line or a cost line of country A, the total cost of producing 1 unit of X in country A is OP measured in capital or OQ measured in labour. By the same reasoning, we find that the total cost of producing 1 unit of commodity Y in country A is the same as that for producing 1 unit of commodity Y in country A is the same as that for producing 1 unit of X, i.e., OP measured in capital or OQ measured in labour. Therefore, OL of labour is equal to CP of capital, and OC of capital is equal to LQ of labour.

To find out the cost of producing 1 unit of each commodity in country B in which capital is relatively dear than in country A, we take a less steep slope of the line representing the ratio of factor prices in country B than in country A. Such a factor-price line is ST for country B which is less steep than the line PQ. This line ST is tangent to the isoquant XX at G. A factor-price line drawn parallel to this is KR which is tangent to the isoquant YY at H. From this it follows that the cost producing 1 unit of commodity X in country B is OS measured in capital, while it is OK measured in capital for 1 unit of commodity Y. Thus it costs more to produce a unit of commodity X than to produce the same amount of Y in country B, as  $OS > OK$ . The obvious conclusion is that country A will produce the relatively cheap commodity X and export it to B, while country B will produce the relatively cheap commodity Y and export it to A. This establishes the Ohlin theorem that the capital abundant country will export the capital-intensive commodity, and the labour-abundant country will export the labour-intensive commodity.

*Factor Abundance in physical Terms* – Another way to explain the Ohlin theorem is in physical terms of factor abundance. If country A is relatively capital-abundant and country B is relatively labour abundant, then measured in physical amounts  $C_A/L_A > C_B/L_B$ , where  $C_A$  and  $L_A$  are the total amounts of capital and labour respectively in country A, and  $C_B$  and  $L_B$  the total amounts of capital and labour respectively in country B. This is explained in Figure.

In Figure, the production possibility curve of country A is  $AA_1$  and that of country B is  $BB_1$ . The slopes of these curves show that commodity Y is capital intensive and commodity X is labour intensive. If countries A and B produce both commodities in the same proportion, they will produce along the ray OR. Country A will be producing at point E on its production possibility curve  $AA_1$ , and country B at point F on its production possibility curve  $BB_1$ . If both produce at their respective points, country A will produce commodity Y which is cheaper in it than in country B. Country B will produce commodity X which is cheaper there than in country A. This is clear from the fact that the slope of country A's production possibility curve at E is steeper and that of country B's production possibility curve at F is flatter. This is proved by the slope of the price line ST of country A which is steeper than the price line KR of country B which is flatter. Thus the capital-abundant country A has a bias in favour of capital-intensive commodity Y from the production side, and the labour-abundant country B has a bias in favour of producing the labour-intensive commodity X.

### ITS SUPERIORITY OVER THE CLASSICAL THEORY:

Ohlin's theory is an improvement over the classical theory of international trade in many respects.

- (1) Ohlin's theory is superior to the classical theory in that it regards international trade as a special case of inter-regional or inter-local trade as distinct from the classical theory which considers international trade totally different from domestic trade.
- (2) Ohlin's analysis which is cast within the framework of the realistic general equilibrium theory of value frees the classical theory from the defunct and unrealistic labour theory of value.
- (3) The Ohlin model takes two factors-labour and capital – as against the one-factor (labour) classical model, and is thus superior to the latter.

- (4) Again, the Ohlin theory is superior to the Ricardian theory in that it regards differences in factor supplies as basic for determining the pattern of international trade while the latter theory takes no notice of it.
- (5) The Ohlin model is more realistic because it is based on the relative prices of factors which in turn influence the relative prices of goods, while the Ricardian theory considers the relative prices of goods only.
- (6) Ohlin's theory considers differences in relative productivities of labour and capital as the basis of international trade, while the classical theory takes the productivity of labour alone. Hence, the former is more realistic than the latter.
- (7) Another merit of the Ohlin model is that it is based on differences in factor endowments in different countries as against the quality of one factor labour in the classical theory. Thus the former is superior because it lays emphasis not only on the quality but also on the quantity of factors in determining international values.
- (8) According to Samuelson, the Ricardian theory could not explain the causes of differences in comparative advantage. The merit of Ohlin's theory lies in explaining the same satisfactorily.
- (9) The classical theory demonstrates the gains from trade between the two countries. This is related to the welfare theory. On the other hand, the Ohlin model is scientific and concentrates on the basis of trade. It thus partakes of the positive theory.
- (10) According to Haberler, Ohlin's theory is a location theory which highlights the importance of space factor in international trade while the classical theory regards the different countries as spaceless markets. Thus the former theory is superior to the latter.

**ITS CRITICISM:** Ohlin's theory has been criticised on the following grounds.

- (1) **TWO-BY-TWO BY-TWO MODEL:** Ohlin has been criticised for presenting two-by-two-by-two model based on oversimplified assumptions. But, as Ohlin himself points out, it can be extended to many regions, many commodities and many factors. He demonstrated it in the mathematical appendix to his book. However, he could not free himself from the unrealistic assumptions of perfect competition and full employment.
- (2) **STATIC THEORY:** Like the classical theory, the Ohlin model is static nature. "It only gives some characteristics of an economy at a given point in time. For instance, it can give information about how to rank goods at any given moment, but it cannot give any indication about how the economy would develop if production conditions were to change".
- (3) **FACTORS NOT HOMOGENEOUS:** The theory assumes the existence of homogeneous factors in the two countries which can be measured for calculating factor endowment ratios. But in reality, no two factors are homogeneous qualitatively between countries, and even one factor is of various types. For instance, labour both skilled and unskilled, is of various types. Similarly, capital goods take many forms and also perform the tasks of labour when they are labour saving.

- (4) Production Techniques Not Homogeneous. Again, the Ohlin model assumes homogeneous production techniques for each commodity in the two countries. But the production techniques are different for the same commodity in the two countries. For instance, textiles may be produced with handlooms which require more labour and less capital or with highly sophisticated power-looms requiring a small number of workers. In such a situation, trade may not follow the Ohlin pattern.
- (5) Leontief Paradox has Falsified the Theory. Ohlin assumes that relative factor prices reflect exactly relative factor endowments. It implies that in the determination of factor prices, supply is more important than demand. If, however, the demand factors are given more importance in determining factor prices a capital-rich country will export a labour-intensive commodity because the high demand for capital will raise the price of capital relative to labour. Professor Leontief's empirical study of the Ohlin theorem, known as the Leontief Paradox, has led to Paradoxical results that the United States exports labour-intensive goods and imports capital-intensive goods, even though it is a capital-rich country.
- (6) Professor Haberler criticises Ohlin for his failure to develop a comprehensive general equilibrium concept. He regards Ohlin's theory as, by and large, a partial equilibrium analysis.
- (7) Wijnholds has criticised Ohlin for his view that commodity prices are determined by the factor prices which in turn determine costs. He holds that the prices of commodities are determined by their utility to the consumers, and that the prices of raw materials and labour are ultimately dependent on the prices of the final commodities. He maintains that the right approach is to start with commodity prices rather than factor prices.
- (8) Ohlin's theory has been characterised as 'somewhat vague and conditional'. As pointed out by Haberler, 'With many factors of production, some of which are qualitatively incommensurable as between different countries, and with dissimilar production functions in different countries, no sweeping a priori generalisations concerning the composition of trade are possible'.

Despite the criticisms, the Ohlin theory of international trade is definitely an improvement over the classical theory as it attempts to explain the basis of international trade in the general equilibrium setting.

## 21.4 THE TERMS OF TRADE:

The rate at which the goods of one country exchange for the goods of another country is called terms of trade. It is a measure of the purchasing power of exports of a country in terms of its imports, and is expressed as the relation between export prices and import prices of its goods. When the export prices of a country rise relatively to its import prices, its terms of trade are said to have improved. The country gains from trade because it can have a larger quantity of imports in exchange for a given quantity of exports. On the other hand, when its import prices rise relatively to its export prices, its terms of trade are said to have worsened. The country's gain from trade is reduced because it can have a smaller quantity of imports in exchange for a given quantity of exports than before.

Jacob Viner and G.M. Meier have discussed different types of terms of trade which we take up one by one.

1. **COMMODITY TERMS OF TRADE:** The commodity or net barter terms of trade is the ratio between the prices of a country's export goods and import goods.

Symbolically, it can be expressed as  $T_c = \frac{P_x}{P_m}$ , where  $T_c$  stands for the commodity terms of trade,  $P$  for price, the subscript  $x$  for exports and  $m$  for imports.

To measure changes in the commodity terms of trade over a period, the ratio of the change in export prices to the change in import prices is taken. Then the formula for the commodity terms of trade is

$$T_c = \frac{P_{x_1}}{P_{x_0}} \bigg/ \frac{P_{m_1}}{P_{m_0}}$$

Where the subscripts 0 and 1 indicate the base and end periods.

Taking 1971 as the base year and expressing India's both export prices and import prices as 100, if we find that by the end of 1981 its index of export prices had fallen to 90 and the index of import prices had risen to 110. The terms of trade had changed as follows :

$$T_c = \frac{90}{100} \bigg/ \frac{110}{100} = 81.82$$

It implies that India's terms of trade declined by about 18 per cent in 1981 as compared with 1971, thereby showing the worsening of its terms of trade.

If the index of export prices had risen to 180 and that of import prices to 150, then the terms of trade would be 121. This implies an improvement in the terms of trade by 21 per cent in 1981 over 1971.

The concept of the commodity or net barter terms of trade has been used by economists to measure the gain from international trade. The terms of trade, as determined by the offer curves in the Mill-Marshall analysis, are related to the commodity terms of trade.

**Its Limitations.** Despite its use as a device for measuring the direction of movement of the gains from trade, this concept has important limitations.

1. The commodity terms of trade are based on the index numbers of export and import prices. But they do not take into account changes taking place or composition in the quality of the goods entering into trade between two countries. At best, a commodity terms of trade index shows changes in the relative prices of goods exported and imported in the base year. Thus the net barter terms of trade fail to account for large changes in the quality of goods that are taking place in the world, as also new goods that are constantly entering in international trade.

2. As a corollary to the above, since the index of the commodity terms of trade does not take into account changes in the quality and composition of goods exported and imported, it cannot study long period changes in the terms of trade. Hence this concept is useful only in short periods.
3. The concept of the commodity terms of trade throws no light on the 'capacity to import' of a country. Suppose there is a fall in the commodity terms of trade of India. It means that a given quantity of Indian exports will buy a smaller quantity of imports than before. Along with this trend, the volume of Indian exports also rises, may be as a consequence of the fall in the prices of exports. Operating simultaneously, these two trends may keep India's capacity to import unchanged or even improve it. Thus, the commodity terms of trade fail to take into account a country's capacity to import.
4. The commodity terms of trade also ignore a change in the productive efficiency of a country. Suppose the productive efficiency of a country increases. It will lead to a fall in the cost of production and in the prices of its export goods. This fall in the prices of export goods will be reflected in the worsening of its commodity terms of trade. But, in reality, the country will not be worse of than before. Even though a given value of exports will exchange for less imports, the country will be better off. This is because a given volume of exports can now be produced with lesser resources and the real cost of imports, in terms of resources used in exports remains unchanged.

Last but not least, the concept of commodity terms of trade is valid if the balance of payments of a country includes only the export and imports of goods and services, and the balance of payments of a country includes only the export and imports of goods and services, and the balance of payments balances in the base and the given years. If the balance of payments also includes unilateral payments or unrequired exports and or/imports, such as gifts, remittances from and to the other country, etc., leading to disequilibrium in the balance of payments, the commodity terms of trade is not helpful in measuring the gains from trade.

To overcome this last difficulty, Taussig introduced the concept of the gross barter terms of trade.

2. **GROSS BARTER TERMS OF TRADE:** The gross barter terms of trade is the ratio between the quantities of a country's imports and exports. Symbolically,  $T_g = Q_m/Q_x$  where  $T_g$  stands for the gross terms of trade,  $Q_m$  for quantities of imports and  $Q_x$  for quantities of exports.

To measure changes in the gross barter terms of trade over a period, the index numbers of the quantities of imports and exports in the base period and the end period are related to each other. The formula for this is

$$T_g = \frac{Q_{m_1}}{Q_{m_0}} \bigg/ \frac{Q_{x_1}}{Q_{x_0}}$$



Taking 1971 as the base year and expressing India's both quantities of imports and exports as 100, if we find that the index of quantity imports had risen to 160 and that of quantity exports to 121 in 1981, then the gross barter terms of trade had changed as follows

$$T_g = \frac{160}{100} \div \frac{120}{100} = 133.33$$

It implies that there was an improvement in the gross barter terms of trade of India by 33 per cent in 1981 as compared with 1971.

If the quantity import index had risen by 130 and that of quantity exports by 180, then the gross barter terms of trade would be 72.22. This implies deterioration in the terms of trade by 18 per cent in 1981 over 1971.

**ITS CRITICISM:** The concept of gross barter terms of trade has been criticised for lumping together unilateral transfers as one category in the index numbers of the quantities of exports and imports. It is, therefore, not possible to distinguish between the various types of unilateral transactions lumped together in the index. "Thus a transfer of goods associated with the export of capital is treated in the same way as the payment of a tribute by a defeated nation at the end of a war. In both cases the gross barter terms of trade of the country exporting the goods appear to improve, but only in the former case is the 'improvement' an indication of strength rather than of weakness".

3. **INCOME TERMS OF TRADE:** Dorrance has improved upon the concept of the net barter terms of trade by formulating the concept of the income terms of trade. This index takes into account the volume of exports of a country and its export and import prices (the net barter terms of trade). Thus the income terms of trade is the net barter terms of trade of a country multiplied by its export volume index. It can be expressed as

$$T_y = T_c Q_x = \frac{P_x Q_x}{P_m} \quad \left( \because T_c = \frac{P_x}{P_m} \right)$$

Where  $T_y$  is the income terms of trade,  $T_c$  the commodity terms of trade and  $Q_x$  the export volume index.

A.H. Imlah calculates this index by dividing the index of the value of exports by an index of the price of imports. He calls it the 'Export Gain from Trade Index'.

A rise in the index of income terms of trade implies that a country can import more goods in exchange for its exports. A country's income terms of trade may improve but its commodity terms of trade may deteriorate. Taking the import prices to be constant, if export prices fall there will be an increase in the sales and value of exports. Thus while the income terms of trade might have improved, the commodity terms of trade might have deteriorated.

The income terms of trade is called the capacity to import. In the long run, the total value of exports of a country must equal its total value of imports i.e.,  $P_x Q_x = P_m Q_m$  or  $P_x \cdot Q_x / P_m = Q_m$ . Thus  $P_x Q_x / P_m$  determines  $Q_m$  which is the total volume that a country can import. The capacity to import of a country may increase if other things remain the same (i) the price of exports ( $P_x$ ) rises, or (ii) the price of imports ( $P_m$ ) falls, or (iii) the volume of its exports ( $Q_x$ ) rises. Thus the concept of the income terms of trade is of much practical value for developing countries having low capacity to import.

**ITS CRITICISM :** But the index of income terms of trade fails to measure precisely the gain or loss from international trade. When the capacity to import of a country increases, it simply means that it is also exporting more than before. In fact, exports include the real resources of a country which can be used domestically to improve the living standards of its people.

Moreover, the income terms of trade index is related to the export-based capacity to import and not to the total capacity to import of a country which also includes its foreign exchange receipts. For example, if the income terms of trade index of a country has deteriorated but its foreign exchange receipts have risen, its capacity to import has actually increased, even though the index shows deterioration. That is why, the concept of the commodity terms of trade is usually used in the preference to the income terms of trade concept for measuring the gain from international trade.

4. **SINGLE FACTORIAL TERMS OF TRADE:** The concept of commodity terms of trade does not take account of productivity changes in export industries. Professor Viner has developed the concept of single factorial terms of trade which allows changes in the domestic export sector. It is calculated by multiplying the commodity terms of trade index by an index of productivity changes in domestic export industries. It can be expressed as

$$T_s = T_c \cdot F_x = \frac{P_x \cdot F_x}{P_m} \left( \because T_c = \frac{P_x}{P_m} \right)$$

Where  $T_s$  is the single factorial terms for trade,  $T_c$  is the commodity terms of trade, and  $F_x$  is the productivity index of export industries.

If the productivity of a country's export industries increases, its factorial terms of trade may improve even though its commodity terms of trade may deteriorate. For example, the prices of its exports may fall relatively to its import prices as a result of increase in the productivity of the export industries of a country. The commodity terms of trade will deteriorate but its factorial terms trade will show an improvement.

**Its Limitations.** The index is not free from certain limitations. It is difficult to obtain the necessary data to compute a productivity index. Further, the single factorial terms of trade do not take into account the potential domestic cost of production of import industries in the other country. To overcome this weakness, Viner formulated the double factorial terms of trade.

5. **DOUBLE FACTORAL TERMS OF TRADE:** The double factorial terms of trade take into account productivity changes both in the domestic export sector and the foreign export sector producing the country's imports. The index measuring the double factorial terms of trade can be expressed as

$$T_d = T_c \cdot \frac{F_x}{F_m} = \frac{P_x}{P_m} \cdot \frac{F_x}{F_m} \quad \left( \because T_c = \frac{P_x}{P_m} \right)$$

Where  $T_d$  is the double factorial terms of trade,  $P_x/P_m$  is the commodity terms of trade,  $F_x$  is the export productivity index, and  $F_m$  is the import productivity index.

It helps in measuring the change in the rate of exchange of a country as a result of the change in the productive efficiency of domestic factors manufacturing exports and that of foreign factors manufacturing imports for that country. A rise in the index of double factorial terms of trade of a country means that the productive efficiency of the factors producing exports has increased relatively to the factors producing imports in the other country.

According to Kindleberger, "The single factorial terms of trade is a much more relevant concept than the double factorial. We are interested in what our factor can earn in goods, not what our factor services can command in the services of foreign factors. Related to productivity abroad, moreover, is a question of the quality of the goods imported."

**ITS CRITICISM:** In practice, however, it is not possible to calculate an index of double factorial terms of trade of a country. Professor Devons made some calculations of changes in the single factorial terms of trade of England between 1948-53. But it has not been possible to construct a double factorial terms of trade index of any country because it involves measuring and comparing productivity changes in the import industries of the other country with that of the domestic export industries.

Moreover, the important thing is the quantity of commodities that can be imported, with a given quantity of exports rather than the quantity of productive factors required in a foreign country to produce its imports.

Again, if there are constant returns to scale in manufacturing and no transport costs are involved, there is no difference between the double factorial terms of trade and the commodity terms of trade of a country.

6. **REAL COST TERMS OF TRADE:** Viner has also developed a terms of trade index to measure the real gain from international trade. He calls it the real cost terms of trade index. This index is calculated by multiplying the single factorial terms of trade with the reciprocal of an index of the amount of disutility per unit of productive resources used in producing export commodities. It can be expressed as :

$$T_r = T_s \cdot R_x = \frac{P_x}{P_m} \cdot F_x \cdot R_x \quad \left( \because T_s = \frac{P_x}{P_m} \cdot F_x \right)$$

Where  $T_r$  is the real cost terms of trade,  $T_s$  is the single factorial terms of trade and  $R_x$  is the index of the amount of disutility per unit of productive resources used in producing export commodities.

A favourable real cost terms of trade index ( $T_r$ ) shows that the amount of imports received is greater in terms of the real cost involved in producing export commodities. But this index fails to measure the real cost involved in the form of goods produced for export which could be used for domestic consumption to pay for imports. To overcome this problem, Viner develops the index of utility terms of trade.

7. **UTILITY TERMS OF TRADE:** The utility terms of trade index measures "changes in the disutility of producing a unit of exports and changes in the relative satisfaction yielded by imports, and the domestic products foregone as the result of export production." In other words, it is an index of the relative utility of imports and domestic commodities foregone to produce exports. The utility terms of trade index is calculated by multiplying the real cost terms of trade index with an index of the relative average utility of imports and of domestic commodities foregone. If we denote the average utility by  $U$  and the domestic commodities whose consumption is foregone to use

resources for export production by  $a$ , then  $u = \frac{U_{m_1}}{U_{a_1}} / \frac{U_{m_0}}{U_{a_0}}$ , where  $u$  is the index of

relative utility of imports and domestically foregone commodities. Thus the utility terms of trade index can be expressed as :

$$T_u = T_r \cdot u = \frac{P_x}{P_m} \cdot F_x \cdot R_x \cdot u$$

Since the real terms of trade index and utility terms of trade index involve the measurement of disutility in terms of pain, risk someness and sacrifice, they are elusive concepts. As a matter of fact, it is not possible to measure disutility (or utility) in concrete terms.

Hence like the single and double factorial terms of trade concepts, the concepts of real and utility terms of trade are of little practical use. They are only of academic interest. That is why the concepts of the commodity terms of trade and of income terms of trade have been used in measuring the gains from international trade in developed as well as developing countries.

## 21.5 FACTORS AFFECTING TERMS OF TRADE:

1. **RECIPROCAL DEMAND:** The terms of trade of a country depend upon reciprocal demand, i.e., "the strength and elasticity of each country's demand for the other country's product". Suppose there are two countries, Germany and England, which produce linen and cloth respectively. If Germany's demand for England's cloth becomes more intense (inelastic), the price of cloth rises more than the price of linen, the commodity terms of trade will move against Germany and in favour of

England. On the other hand, if England's demand for Germany's linen becomes more intense, the price of linen will rise more than the price of cloth, and the commodity terms of trade will move in favour of Germany and against England.

2. **CHANGES IN FACTOR ENDOWMENTS:** Changes in factor endowments of a country affect its terms of trade. Changes in factor endowments may increase exports or reduce them. With tastes remaining unchanged, they may lead to changes in the terms of trade.
3. **CHANGE IN TECHNOLOGY:** Technological changes also affect the terms of trade of a country.
4. **CHANGES IN TASTES:** Changes in tastes of the people of a country also influence its terms of trade with another country. Suppose England's tastes shift from Germany's linen to its own cloth. In this situation, England would export less cloth to Germany and its demand for Germany's linen would also fall. Thus England's terms of trade would improve. On the contrary, a change in England's taste for Germany's linen would increase its demand and hence the terms of trade would deteriorate for England.
5. **ECONOMIC GROWTH:** Economic growth is another important factor which affects the terms of trade. The raising of a country's national product or income over time is called economic growth. Given the tastes and technology in a country, an increase in its productive capacity may affect favourably or adversely its terms of trade.
6. **TARIFF:** An import tariff improves the terms of trade of the imposing country.
7. **DEVALUATION:** Devaluation raises the domestic price of imports and reduces the foreign price of exports of a country devaluing its currency in relation to the currency of an other country.

The effects of devaluation on the terms of trade have been much debated among economists. According to Prof. Machlup, "Devaluation is supposed to improve the balance of trade. A reduction in the physical volume of imports in relation to the physical volume of exports constitutes an adverse change in the gross barter terms of trade". Thus devaluation will be successful only if the gross barter terms become adverse. Prof. Robertson favours the use of the concept of the commodity terms of trade to assess the effects of devaluation. To him, if this concept is used, devaluation will lead to rise in prices of imports and fall in prices of exports in foreign currency, and hence deteriorate the commodity terms of trade. But Prof. Hirsch suggests that the right procedure should be to study price movements in exports and imports in the same currency in order to assess the true effects of devaluation. Both export and import prices normally rise in the home currency and fall in the foreign currency. The commodity terms of trade will deteriorate only when export prices fall more than import prices in terms of domestic currency. In reality, the elasticities of demand and supply for exports and imports of a devaluing country determine deterioration or improvement in its terms of trade. If both the foreign demand for exports and home demand for imports are highly elastic and supplies both to home exports and foreign imports are highly inelastic to price movements, devaluation leads to an improvement in the commodity terms of trade.

## 21.6 DIFFICULTIES IN ESTIMATING TERMS OF TRADE:

The concepts terms of trade have immense use in international trade. Basing on these concepts, we can estimate how a country benefits from international trade. However, there are certain difficulties in estimating terms of trade.

1. Selecting of base period is the main difficulty to calculate the terms of trade. If the base period is too short or too long to current period, it may not be comparable.
2. The commodity terms of trade explains the changes in quantity and prices of imports and exports but it does not take into account the changes in the quality of goods.
3. There is a time lag between exports and imports of a country. So it is very difficult to formulate the terms of trade by taking these time lags into consideration.
4. Theoretically, utility terms of trade is very useful but in practice there are so many shortcomings. It is not possible to measure real costs, sacrifice, utility and dis-utility etc in concrete terms.

## 21.7 SUMMARY:

The theories of international trade explain the basis of trade. The classical theory of international trade explains that absolute differences in costs and comparative differences in costs are responsible for international trade. Heckscher-Ohlin theory states that differences in relative factor supply only indicate that some commodities will be relatively cheaper in one country than others. However, these theories are criticized in many respects.

The rate at which a country exchanges exports for imports is called as terms of trade.

The concept terms of trade are useful to estimate the benefits from international trade. However, each concept has its own shortcomings.

## 21.8 IMPORTANT POINTS TO BE REMEMBERED:

1. Ricardian comparative cost advantage theory can be called as classical theory of international trade.
2. Adam Smith developed the theory of international trade on absolute difference in costs.
3. Ricardo explains that international trade takes place basing on comparative cost differences.
4. Heckscher-Ohlin theory can be called as modern theory of international trade.
5. The Heckscher-Ohlin Theorem states that countries which are rich in labour will export labour intensive goods and countries which have plenty of capital will export capital intensive products.

**21.9 GLOSSARY:**

1. Absolute cost Advantage producing a commodity most cheaply.
2. Comparative cost Advantage : Producing a commodity which has a maximum comparative cost advantage or minimum comparative disadvantage.
3. Reciprocal Demand
4. Offer Curves : The offer curves of a country denotes the amount of a commodity X, it is willing to offer for a given amount of some other commodity Y.
5. Devaluation : It is a means of correcting a balance of payments deficit generally as a measure of last resort.

**21.10 MODEL QUESTIONS:****I. ESSAY TYPE QUESTIONS:**

1. Explain the Ricardo comparative cost theory.
2. Critically examine the Heckscher Ohlin Theorem.
3. What is meant by terms of trade ? Examine the various concepts of terms of trade.
4. Mention various concepts of terms of trade ? What are the factors affecting the terms of trade?

**II. SHORT ESSAY QUESTIONS**

5. Examine the Adam Smith's absolute last advantage theory.
6. What is meant by terms of trade? What are the problems involved in measuring terms of trade?

**III. SHORT QUESTION:**

7. Comparative cost advantage.
8. Assumptions of classical theory of international trade.
9. Assumptions of Heckscher Ohlin Theory.
10. Difference between Gross Barter and Net Barter Terms of Trade.
11. Utility Terms of Trade.

**21.11 SUGGESTED READINGS:**

1. Soderston B.O. : International Economics
2. Enke & Salera : International Economics
3. David Young : International Economics
4. Mithani D.M. : International Economics

## **Lesson : 22**

# **RECENT TRADE POLICY TRADE AGREEMENTS**

## **22.0 AIMS AND OBJECTIVES:**

The following are the aims and objectives of this lesson.

- \* To know about the foreign trade Policy.
- \* To know the trade Policy of India
- \* Features of Recent Trade Policy of India
- \* Reforms in Recent Trade Policy
- \* The effects of Recent Trade Policy
- \* To know the trade agreements between countries
- \* What the objectives of Trade Agreements
- \* To Learn about bilateral and multi-lateral trade agreements

## **CONTENTS:**

- 22.0 Aims and Objectives**
- 22.1 Introduction**
- 22.2 Foreign Trade Policy**
- 22.3 India's Trade Policy**
  - 22.3.1 India's Trade Policy Since 1991**
  - 22.3.2 Foreign Trade Policy 2005 – 06**
- 22.4 Trade Agreements**
  - 22.4.1 Bilateral Trade Agreements**
  - 22.4.2 Multilateral Trade Agreements**
- 22.5 Summary**
- 22.6 Points to be Remembered**
- 22.7 Glossary**
- 22.8 Model Questions**
- 22.9 Suggested Readings**



## 22.1 INTRODUCTION:

Every country in the world should adopt its foreign trade policy to regulate foreign trade suited to its economy. The country may adopt either the policy of free trade or protection. Developing economics objective to adopt the trade policy is for rapid economic development. Whereas, developed economics objective is to stabilise or main the development rate. Export promotion and import substitution are two important things in the trade policy. The economics use the instruments such as customs duties, Quotas, licences etc in order to achieve their objectives.

## 22.2 FOREIGN TRADE POLICY:

Foreign trade policy is highly important in economics. This policy is concerned with whether a country should adopt the policy of free trade or protection. There is heated discussion since Adam Smith regarding the policy of free trade or protection. There are various arguments for and against to free trade. If the policy of protection is adopted, the question is whether for this purpose tariffs should be imposed on imports or quantitative restrictions through quota and licensing be applied. The following discussion gives cases for free trade and protection.

### A) CASE FOR FREE TRADE:

The following are arguments that have been given in defence of free trade.

**GAINS IN OUTPUT AND WELL-BEING FROM SPECIALISATION:** Free trade is fundamentally based on the gain in output and well-being a country gains from specialising in the production of those goods in which it is relatively more efficient and before export a part of them and in exchange gets those goods from other countries in production which they are comparatively more efficient. Specialisation and trading in this way would achieve more efficient allocation of resources and a higher level of output and well-being.

**GAINS FROM ECONOMIES OF SCALE:** An important gain from trade is the economies of scale. If a country does not trade with others, its firms will produce goods to meet the domestic demand for a product. If domestic demand for a product is small they would not be able to enjoy the benefits of the economies of large scale production. So, that the production of goods will be inefficient. But international trade expands the market for goods and enables the producers to take advantage of the economies of scale.

**LONG-RUN DYNAMIC GAINS:** Free trade also leads to dynamic gains being obtained from trade. Dynamic gains from trade refer to its stimulation of economic growth. Dennis Robertson described foreign trade as 'an engine of growth'. The stimulation of growth through foreign trade are apparent from the rapid growth of such economies such as Japan, Taiwan, South Korea, Singapore, Hongkong and China. Free trade promotes economic growth through : (1) raising the rate of saving and investment; (2) import of capital goods and (3) transfer of technology.

**PROMOTES COMPETITION AND PREVENTS MONOPOLY:** Another case for free trade refers on the fact that it promotes competition and prevents the emergence of monopolies in the domestic economy. In the absence of trade and therefore without facing any competition from foreign firms, domestic firms tend to become inefficient which causes

rise in cost per unit of output and therefore higher prices of goods. When trade is free, increased competition by foreign firms forces domestic firms to make efforts to reduce cost by employing lowest-cost production techniques.

**POLITICAL GAINS FROM FREE TRADE:** The economic interdependence raises the likelihood of reduced hostility between countries. It provides powerful incentives for peaceful solution of disputes. Trade between economically interdependent countries increases the potential losses from war and thus reduces the likelihood of armed conflict.

In addition, countries have put up various barriers to free trade flows. However, the important barriers to free trade are (1) the imposition of tariffs (i.e., duties on imports of goods), (2) the fixation of import quotas, (3) the licensing of imports. The reasons for these trade barriers are that different nations want to protect their domestic industries, to increase employment opportunities, to improve their balance of payments and to achieve other goals. We therefore discuss below the case for protection and then in a later section will examine the impact of trade barriers, especially tariffs on welfare and growth.

## **B) CASE FOR PROTECTION:**

Despite gains from free trade, there are many arguments against free trade and in favour of protection. Protection we means safeguard the domestic industries from low-priced imports by using some barriers against import of foreign goods are imposed. Some arguments given in defence of protection are irrational and invalid, whereas some are valid. We critically examine below various arguments given in favour of protection (i.e., against free foreign trade).

**NATIONALISM:** First argument for protection is that nationalistic feeling or patriotism requires that people of a country should buy products of their domestic industries rather than foreign products. 'Be American, buy American' appealing people by U.S.A. Government to buy American goods instead of imported foreign products. Similarly, 'Swadeshi' is recent campaign that appeals to the patriotic feeling of the Indian people that we should protect our indigenous industries and impose barriers on imports of foreign goods or provide subsidies to our industries. However, this argument is misplaced and invalid. Because nationalism or 'Swadeshi' are actually contrary to our national interests because they promote inefficiency and prevents rapid economic growth.

**EMPLOYMENT ARGUMENT:** Another important argument is that it will lead to increase in domestic employment or at least preserves present domestic employment. It is often believed that imports of goods from abroad reduce domestic employment.

However employment argument for protection is not logical and valid because this argument ignores the adverse effects of protection on our industries. An important economic principle is that exports must pay for imports. If imports are restricted by imposing barriers, the exports cannot remain unaffected.

**INFANT INDUSTRY ARGUMENT:** An important argument in support of protection is infant industries of poor countries that should be provided protection from the competition of low-priced imports of the mature and well-established industries of the developed industrialised countries for some time they should be protected otherwise they would be destroyed by foreign competition.

However, there are some lacuna in infant industry argument. Firstly, the actual experience shows that it is more likely that protected industries lose incentives to become efficient and lower cost. It is said "once an infant, always an infant." Secondly, even if an industry makes efforts to improve productivity and lower cost per unit when it is provided protection, it has been assumed in the argument that the Government is the best judge as to which industries will prove to be capable of competing low-priced foreign goods. It has been asserted in defence of free trade that selection of industries which will acquire competitive strength can be done better by private market mechanism. It is pointed out that when opening up the economy to foreign competition the domestic industries would try to increase their efficiency. As a result, only those industries will survive which are efficient and produce at a lower cost. Therefore, it is argued that it is better if the domestic industries are left to foreign competition and in this way they will have incentives to improve productivity to escape from losses. Only those domestic industries will survive and operate which are efficient and produce at a low cost per unit.

However it may be noted that in developing countries the Government is in a better position to protect certain industries such as steel, cement which lead to an expansion of the infrastructure of the developing economies. This is because these industries create external economics and the private firms will not be compensated for creating these external benefits.

**ANTI-DUMPING ARGUMENT:** Dumping is a form of price discrimination when producers of country sells goods in another country at lower prices than those charged at home country. Consumers in a country in which foreign goods are dumped are beneficiaries, the industries of that country suffer as they are unable to compete with the 'dumped goods'. In addition, there is more harmful 'predatory dumping' which implies that foreign firms try to sell goods in other countries even below cost to establish a worldwide monopoly by driving competitors out of the market. Once the local industries are competed out, they raise prices to obtain monopoly profits.

**CORRECTING BALANCE OF PAYMENT DEFICIT:** Correcting deficit in balance of payment is another justification for imposing tariffs to restrict imports. This appears to be a valid argument for providing protection. However, in our view the solution for fundamental dis-equilibrium in the balance of payments lies in the adoption of suitable adjustment in exchange rate, appropriate fiscal and monetary policies to lower domestic prices so as to encourage exports.

**REDISTRIBUTION INCOME:** Protection can be used for making desirable redistribution of income from one section of society to another. Protection makes some people better off, while others worse off. By providing protection to domestic producers their profits can be raised at the expense of consumers who suffer a loss in consumer surplus as protection denies them consumption of low priced imported goods. That is, protection redistributes income in favour of domestic producers. Sometimes protection causes transfer of income from some factors to the others.

## 22.3 INDIA'S TRADE POLICY:

Advanced countries such as West Germany, U.S.A., Japan and others used their trade policy to restrict their imports and provide a sheltered market for their own industries so that they could develop rapidly, and promote their exports so that their expanding industries could secure foreign markets. In other words, trade policy played a significant role in the development of the advanced countries. However, India did not have a clear trade policy before Independence. Some type of import restriction-known as discriminating protection-was adopted since 1923 to protect a few domestic industries against foreign competition. After independence only a trade policy as part of the general economic policy of development was formulated India.

**22.3.1 MAIN FEATURES OF INDIA'S TRADE POLICY:** Prior to independence, India has been in a disadvantageous position vis-à-vis advanced countries which are capable of producing and selling almost every commodity at low prices. Which means India could not develop any industry without protecting it from foreign competition. Hence, import restriction becomes essential to protect domestic industries and to promote industrial development.

Since Independence, the Government of India has broadly restricted foreign competition through a judicious use of import licensing. Import quotas, import duties and, in extreme cases, even banning import licensing. Import quotas, import duties and, in extreme cases, even banning import of specific goods. The Mahalanobis strategy of economic development through heavy industries, which India adopted issues the Second Plan, called for (a) banning or keeping to the minimum the import of non essential consumer goods, (b) comprehensive control of various items of imports (c) liberal import of machinery, equipment and other developmental goods to support heavy-industries based economic growth, and (d) favourable climate for the policy of import substitution. Mahalanobis strategy was strengthened by the serious foreign exchange crisis which India faced in 1956 – 57 and the Government tightened import controls as well as foreign exchange controls.

*On the export side.* In the Indian context, trade policy does not consist only of import restrictions but of export promotion as well. To pay for its essential imports and to minimise dependence on foreign countries, expansion of exports becomes very essential. It is also possible that the market for many goods within India may not be adequate to absorb that entire domestic production and hence a search for markets elsewhere is a necessity. In the past, imperialist European powers overcame their restricted domestic markets by capturing other countries like India and using them as colonies to sell their goods, India can never become a colonial and imperial power and secure captive markets. However, the Indian Government has to play an important role to promote exports through setting up trading institutions, and through fiscal and other incentives. Vigorous export promotion was emphasised after the Second plan to earn foreign exchange to overcome the acute foreign exchange crisis. In the 1970's, importance of export promotion was again emphasised because of mounting debt service obligations and the goal of self-reliance (with zero net aid).

**Phases of India's trade policy:** Five distinct phases in India's trade policy can be noted: the first phase pertains to the period 1947 – 58 to 1951 – 52, the second phase covering

the period 1952 – 53 to 1956 – 57 and the third phase after 1956 – 57 to June, 1966, the fourth phase started after devaluation of the Rupee in June 1966 and the last phase after 1975 – 76.

During the first phase upto 1951 – 52, India could have liberalised imports on account of the restrictions placed by the U.K. on the utilisation of the sterling balances, she had to continue wartime controls. Since our balance of payments with the dollar area was heavily adverse. An effort was made to screen imports from hard currency areas and boost up export to this area so as to bridge the gap. This also necessitated India to devalue her currency in 1949. By and large, the Import policy continued to be restrictive during this period. Besides, this, restriction were also placed on exports in view of the domestic shortages.

During the second phase (1952-53 to 1956 – 57) liberalisation of foreign trade was adopted as the goal of trade policy. Import licences were granted in a liberal manner. An effort was also made to encourage exports by relaxing export controls, reducing export duties, abolishing export – quotas and providing incentives exports. Liberalisation led to a tremendous increase in our imports but exports did not rise appreciably. Consequently there was fast deterioration in our foreign exchange reserves. This necessitated a reversal of trade policy.

During the third phase which began in 1956-57, the trade policy was re-oriented to meet the requirements of planned economic development. A very restrictive import policy was adopted and the import controls further, screened the list of imported goods. On the other hand ..... Drive was launched. The trade policy assumed that a lasting solution to be balance of payments problem lies in the promotion and diversification of our export trade. Now only should the export of traditional items be expanded, but export of newer items should also be encouraged. Similarly, import substitution industries should also be encouraged so that dependence on foreign countries be lessened. It was in this period that India's trade policy was thoroughly reviewed by the Mudalliar Committee (1962).

The fourth phase started after the devaluation of the rupee in June, 1966. During this period trade policy attempted to expand exports and strangely liberalised imports too. Actually, export promotion was given a big boost through the acceptance and implementation of the recommendations of the Mudalliar Committee (1962). The major recommendations included increased allocation of raw materials to export-oriented industries, income tax relief on export earnings, export promotion through import entitlement, removal of disincentives, and setting up of Export Promotion Advisory Council, a Ministry of International Trade etc. When these export promotion measures did not succeed and adverse balance of payments persisted, the Government of India undertook devaluation of the rupee in 1966 as a major step to check imports and boost exports. Initially devaluation was not successful and the adverse balance of payments worsened during the Annual Plans. But during the Fourth Plan, the trade policy was quite successful in restricting imports and promoting exports. This period continued till 1975-76.

During the last phase (1975 – 76 onwards), the Government adopted a policy of import liberalisation, with a view to encourage export promotion. During Janata rule import

liberalisation was also adopted to augment domestic supply of essential goods and to check rise in price level. Import-Export policy of the Indian Government attempted to achieve such objectives as : (i) to provide further impetus to exports; (ii) to provide for optimum utilisation of country's resource endowments, especially in manpower and agriculture; (iii) to facilitate technology upgradation with special emphasis on export promotion and energy conservation; (iv) to provide a stimulus to those engaged in exports and in particular, to manufacturing units contributing substantially to the export efforts; and (v) to effect all possible savings in exports. Thus, it is clear that the present trade policy has been to stimulate economic growth and export promotion via import liberalisation.

Import liberalisation along with export promotion at a time when (a) prices of imported goods were rising much faster, and (b) foreign markets for Indian goods were depressed, resulting in huge adverse balance of trade and payments from 1979-80 onwards. Instead of curtailing imports. The Tandon Committee (1981) recommended a policy of vigorous export promotion and further import liberalisation as a means of export promotion. The IMF loan (1981) had also stipulated that India should use export promotion and not import restriction as the strategy for controlling adverse balance of payments. Such a trade policy has forced India almost into a debt trap the Indian bureaucrats are knocking at the doors of Aid India Consortium and other advanced countries to bail India out.

**Abid Hussain Committee on Trade Policies (1984):** The Government of India appointed a Committee on Trade Policies under the chairmanship of Mr. Abid Hussain, the then Member, Planning Commission. The Committee submitted its Report in December 1984. The Committee, therefore, recommended :

- (i) The duty drawback system should be rationalised in such a manner that it provided and expeditious and complete reimbursement of taxes paid on inputs that enter into export production.
- (ii) The present practice of including CCS as part of taxable income is not logical. The Committee would urge the Government to consider exempting CCS from income tax.
- (iii) The present import replenishment system for export production should be reformulated along the lines of advances licensing system for the category of manufacture-exports. Such import facilities should be duty-free and subject to actual user condition. It should than be possible to eliminate licensing through the introduction of a pass-book for each exporter. In effect, this would mean a permanent replenishment licence for established manufacturer-exporters.
- (iv) The government may consider exempting 50 per cent of the profits from exports from income-tax.
- (v) Export production, in appropriate cases, should be exempted from capacity licensing provision implicit in industrial policy and restrictions on imports of capital goods or technology in import policy.
- (vi) There should be an exchange entitlement scheme for exporters. EESE, which would enable them to use a certain fraction of their foreign exchange earnings for the purpose of market development.

**22.3.2 INDIA'S TRADE POLICY SINCE 1991 (RECENT TRADE POLICY): IMPORT LIBERALISATION AND EXPORT ORIENTATION: A GENERAL REVIEW:**

There was a severe economic crisis in 1991. This economic crisis had its root in persistent deficits in balance of payments in the last several years. Gulf war of 1990 added to the problem as it resulted in shooting up of oil prices which required enhanced spending in terms of foreign exchange. By March 1991, current account deficit in balance of payments reached a record level of about 10 billion US dollars or over 3 per cent of our GDP. Exports were declining. Foreign borrowing in last several years raised the ratio of short-term debit to foreign exchange reserves to an extremely high level of 146.5 per cent. Foreign debit reserve ratio rose to a peak of 35.5 per cent. As result, our foreign exchange reserves dwindled to a mere amount which was hardly adequate to meet only a few weeks imports. A default on payments for the first time in our history became a distinct possibility in June 1991. Foreign capital was flying from India. No one was willing to lend us any more.

The severe economic crisis of 1991 forced us to make drastic reforms in trade policy. Fortunately, Dr. Manmohan Singh was appointed as Finance Minister. Since then many far-reaching reforms in trade policy have been undertaken. Though some liberalisation of trade policy was undertaken in the eighties, a truly liberalised trade policy was adopted from 1991 onward.

The liberalisation of trade policy in India is characterised by two important features:

1. Import liberalisation and
2. Export-orientation of trade policy.

This new trade policy has accelerated India's transition to a globally oriented economy by stimulating exports and facilitating imports of essential inputs and capital goods. The steps were taken to promote exports by removing anti export bias in the earlier policy. This policy of import liberalisation and export-orientation was in fact the policy that was recommended by IMF and World Bank to solve the balance of payments problem facing the developing countries and to accelerate state of economic growth. Now we see this trade policy in some detail.

**IMPORT LIBERALISATION:** The first important reform in India's trade policy has been elimination of quantitative restrictions in a phased manner on most of intermediate and capital goods since 1991. Secondly, prior to 1991 imports were regulated by means of positive list of freely importable items. Instead, since 1992 is a part of trade policy reforms only a short negative list of imports is subject to regulations by government. Other goods can be imported, subject of course on payment of duty.

**ABOLITION OF LICENSING:** Prior to 1991 a large number of goods was subject to import-licensing restrictions. Now, most of the items of imports have been put on Open General Licence (OGL). That for their imports prior approval or licence from any authority is not required. Thus, License-Permit regarding imports has been done away with.

**TARIFF REDUCTION:** An important step towards import liberalisation has been reduction in import-duties to eliminate protection given to domestic industries from foreign competition. The maximum import duty which was as high as around 150 per cent was reduced to 110 per cent in 1992-93. This is further reduced to 85 per cent in 1993-94, to 65

per cent in 1994 – 95 and to 50 per cent in 1950 – 96. Now, in 2004 – 05 average customs duty has been reduced to 20 per cent only.

Empirical evidence shows reduction in protection increase efficiency and productivity in the domestic industries as it exposes them to foreign competition.

**LIBERALISATION OF IMPORTS OF GOLD AND SILVER:** Another significant import liberalisation has been that imports of gold and silver has been liberalised. This has helped in printing smuggling of these metals.

**CRITIQUE OF IMPORT LIBERALISATION:** It may be noted that fears were expressed about import liberalisation both by certain politicians and economists, especially with leftist leanings. They contended that import liberalisation would kill domestic industries as they would not be able to compete with the cheap foreign products. This would lead to closure of a large number of industrial units, especially small scale industries. Besides, they claimed that the large-scale imports, would require substantial foreign exchange resources. Thus, according to them import liberalisation would worsen the balance of payments problem rather than solving it. Even a reputed economist. Dr. Bimal Jalan, a former Governor of Reserve Bank of India, expressed reservations about the policy of import liberalisation and pointed out that it would be highly risky for the Indian economy. Writing in 1991, he says, “given the balance of payments constraints operating now, and the financing operations currently available, import-liberalisation as strategy does not seem to be feasible option over the next few years. This pragmatic view is not dependent on the theoretical validity (or otherwise) of the liberalisation argument. By implication, import liberalisation would have the effect of raising, even in the short sum, the ratio of import to GDP. This may not be undesirable in itself, but it would require larger inflows of external capital in the next few years and this is not available on appropriate terms. Past experience shows that further commercial borrowing to finance import liberalisation.... Would also be undesirable, given the high level of external debt. In this situation, import liberalisation would be unduly risky and could lead a repetition of the unfortunate experiences of several other developing countries”.

However, as shall be explained later, in actual experience, these fears about import-liberalisation leading to adverse consequences have not proved to be true.

**EXPORT-ORIENTATION OF TRADE POLICY:** Along with import liberalisation, export-orientation was also given to India's trade policy pursued since 1991. In other words, for the first time greater emphasis was placed on export promotion in our trade policy by removing anti-export bias of our earlier policy. Some economists describe it out-ward looking strategy was adopted since 1991 in place of inward-looking strategy of import subtraction followed earlier. We explain below the various export-promotion measures taken to give export-orientation to trade policy.

- 1. REDUCTION IN CUSTOMS DUTIES TO END ANTI-EXPORT BIAS:** As mentioned above, prior to 1991 customs duties of India were the highest in the world and were levied to promote import substitution. These very high customs duties provided a high degree of protection to domestic industries in actual practice, the high degree of protection lowers efficiency and is not conducive to optimum use



and allocation of resources in the absence of competition from imported products, the prices of domestic goods were high and this served to induce import substitution but worked against promotion for exports. Since prices of products in international markets were lower, it was not profitable to produce for export. Therefore to remove this anti-export bias and promote the growth of export customs duties were reduced and in 2004-05, average rate of customs duties have been reduced to 20 per cent.

- 2. DEVALUATION OR RUPEE:** Another important step to promote exports was devaluation of rupee by 20 per cent in July 1991. Devaluation lowered the prices of our exports and gave an important boost to them. Prior to 1991 rupee currency was overvalued and to ensure growth in exports to make foreign exchange earning, export subsidy in the form of cash compensatory scheme was provided exporters. Therefore, along with devaluation cash compensation scheme was withdrawn.

**MARKET DETERMINED EXCHANGE RATE:** Convertibility of Rupee After two years, in 1993, exchange rate of rupee was made market determined, that is, exchange rate of rupee with foreign currencies were left to be determined by demand for and supply of rupee and other currencies. This implies that rupee can appreciate or depreciate in terms of other currencies every day depending on demand and supply conditions. This flexible exchange rate works to some extent to correct disequilibrium in the balance of payments. However, it is worth mentioning that exchange rate though determined by demand for and supply of foreign exchange can be influenced by RBI through buying and selling of dollars or other foreign currencies. Therefore, present exchange rate system is more correctly described as managed float.

It may be noted that over a period of time since 1993, exchange rate of rupee has declined, that is rupee has depreciated. This has tended to promote exports and discourage imports. In addition to the introduction of market determined exchange rate rupee has been made convertible on current account of balance payments, that is, importers can now get their rupees converted into dollars and exporters can sell their dollars for rupees at market-determined exchange rate. Thus, convertibility of rupee has facilitated imports and exports and has contributed to the globalisation of the Indian economy.

- 3. LIBERALISATION OF CONTROL OVER EXPORTS:** Through continuous review and revisions during the last 12 years controls on exports has been liberalised to the extent that now all goods may be reported without any restriction except the few items mentioned in the negative list of exports. The items in the negative list of exports are regulated because of strategic considerations, environmental and ecological grounds, essential domestic requirements, employment generation and on account of socio cultural heritage.
- 4. DUTY-FREE IMPORT OF CAPITAL GOODS FOR USE IN PRODUCTION FOR EXPORTS:** A significant export-promoting measure is that capital goods meant to be used for production of exportable products can be imported free of customs duty. There are two windows to fulfil export obligation on FOB (free on hand) and NFE (net foreign exchange basis).

5. **ADVANCE LICENCES FOR IMPORTS AGAINST EXPORTS:** Advance licences which are used to import specified raw materials without payment of any customs duty against confirmed export order and/or of credit have been made transferable after export obligation has been fulfilled.
6. **EXEMPTION FROM TAX AND CREDIT SUBSIDIES:** Profits or incomes from exports are completely exempt from income taxes. Besides, exporters are provided preferential access to credit from banks. Confessional rates of interest are charged for pre-ship and post-ship credit to exporters.
7. **THE DUTY DRAWBACK SCHEME:** In this important scheme of providing incentives to exporters customs duty and excise duty paid on inputs which are used for production of exports are reimbursed to exporters.
8. **INCENTIVE TO EXPORTS OF SERVICES:** In an attempt to provide massive thrust to export of services in EXIM Policy 2003-04 has introduced duty free import facility for the service sector units using a minimum foreign exchange earnings of Rs. 10 lacs. The scheme is likely to provide a major thrust to export of services like health care, entertainment, professional services and tourism.

Small-Scale Industries (SSI). In an attempt to provide massive thrust to export of services in EXIM Policy 2003-04 has introduced duty free import facility for the service sector units using a minimum foreign exchange earnings of Rs. 10 lacs. The scheme is likely to provide a major thrust to export of services like health care, entertainment, professional services and tourism.

9. **INCENTIVE TO EXPORTS OF SERVICES:** Small-scale industries (SSI) reservations have been withdrawn from a large number of items so a large-scale producers can produce these terms cheaply and export them.

**22.3.3 FOREIGN TRADE POLICY (2005-06):** Industry and Commerce Minister Mr. Kamal Nath stated : Foreign trade is not just about earning foreign exchange and exporting the trade basket of Indian goods and services; it is also aimed at the creation of more jobs inline with the UPA's Common Minimum Programme. He affirmed that export earnings will be increased to reach a target of \$ 150 billion during the next four years and to add 25 lakh jobs every year. For 2005-06, the target set was to reach a level of \$ 92 billion, growing at the rate of 15% during the year as against the likely achievement of \$ 80 billion during 2004-05. 10 lakh jobs created owing to enhanced exports were added during 2004-05.

The focus areas identified for boosting export revenues and job creation are : agricultural products, dairy and poultry, marine products, pharmaceuticals, auto-components, gems and jewellery.

A package of incentives and comprehensive strategy has been put together for each sector. For instance, the export cess currently being levied on agricultural and ports of samples up to Rs. 3 lakhs have been allowed, by raising the earlier limit of Rs. 1 lakh. To ensure availability of high quality gold (purity over 0.995 per cent), designated agencies (MMTC and STC) have been directed to provide the metal for export purposes.

There is no doubt that during 2005-06, India's exports reached a high level of US \$ 100.66, but simultaneously, the imports touched dizzy heights and reached \$ 140.22 billion, resulting in an unprecedented trade deficit of other order of \$ 39.56 billion. Obviously, our foreign trade policy is one-legged since it emphasizes expansion of exports only, but remains oblivious of the trend of imports. Ultimately, India, must, reach the stage of positive trade balance, rather than develop an economy with burgeoning trade deficit.

## 22.4 TRADE AGREEMENTS:

When two or more countries, or group of countries agree to adopt certain measures to regulate exports or imports is known as trade agreements. The trade regulating instruments such as customs duties, quota system, rationing of foreign exchange, exchange pegging, exchange equalisation fund etc., are involved in the trade agreements. The countries came to trade agreements in order to reap the following benefits.

1. Rapid economic development of developing economies.
2. To correct the deficit in the balance of payments.
3. To control inflation.
4. To get benefit from international trade.
5. Mutual exchange of technical knowledge, and
6. Mutually exchange managerial skills.

### BILATERAL TRADE AGREEMENTS:

When two or more than two countries agree to adopt certain measures with a view to stabilise the rates of exchange as between them such methods are known as bilateral or multilateral methods. All the countries forming parties to the contract are affected by such contracts. The main methods are –

1. **PAYMENT AGREEMENTS:** Such contracts are concluded between two countries – one being a debtor country, and other being a creditor country. The purpose of such agreements is to make necessary provisions for the repayment of loan including interest. Under the agreement, provision is made that the creditor countries is not free to impose any restriction on the imports from the debtor country whereas the debtor country to make more and more exports to and less, and less imports from the creditor country and thus paying its loan including interest out of surplus balance of trade. The method was followed during second world war by several countries.
2. **CLEARING AGREEMENTS:** According to clearing agreements, two-countries makes an agreement to provide for the clearing accounts. All payments for imports and exports are made and received by the respective countries through these clearing accounts. Under these agreements the importers of the two countries make the payment for the goods and services imported not in foreign currencies but only in domestic currencies which is deposited in the clearing accounts of the respective countries. Likewise, exporters of the two countries receive the price for the goods exported in domestic

currency through the clearing accounts of their respective countries. Thus, importers and exporters are not required foreign currencies in any way under clearing agreements.

3. **TRANSFER MORATORIA:** Under this system, payments for imported goods and interest on capital to be paid in foreign currency is withheld for a fixed period and paid in foreign currency soon after the predetermined period as provided in the agreement is over. The importers and the debtors deposit the amount due in domestic currency in some authorised bank. The amount deposited in this account is paid by the bank to the exporters and the creditors after the fixed interval in foreign currencies.
4. **COMPENSATION AGREEMENTS:** This is a system based upon the barter system. Under this type of agreement, both countries agree to export goods and services to the other country exactly equal to the imports made from such other country. The question, therefore, does not arise to make the payment in foreign currencies as the imports and exports of two countries exactly balance with each other.

Thus, the above various methods of foreign exchange control are and have been used by various countries at different times. Some countries adopt more than one methods in order to achieve various objectives.

## 22.5 SUMMARY:

A policy that intends to regulate exports and imports of a country is called as Trade Policy. India did not have a specific trade policy prior to independence. The trade policy that was adopted by India after independence can be noted in five distinct phases. The present trade policy can be called as recent trade policy. This was started in the year 1991. Different kinds of reforms, were introduced in tariff, exchange rate and licensing in this trade policy. There is considerable progress due to implementation of the trade policy. However, more reforms are needed for rapid economic development in the light of changing international scenario.

## 22.6 IMPORTANT POINTS TO BE REMEMBERED:

1. India has no specific trade policy before independence. In order to control imports, India need to levy input duties.
2. After independence, India has been formulating trade policies. However, the Trade Policy of 1991 is the recent trade policy.
3. Due to implementation of the new trade policy, imports as well as exports are increased.
4. Trade agreements between two countries is known as bilateral trade agreement, where as, better more than two countries is known as multilateral trade agreement.

## 22.7 MODEL QUESTIONS:

### I. ESSAY TYPE QUESTIONS:

1. Explain the main features of India's trade policy. Discuss the trade policy of India since 1991.

**II. SHORT ESSAY QUESTIONS:**

2. Examine the Recent trade policy of India.
3. Write a note on them.

**III. SHORT QUESTIONS:**

4. Main features of New Trade Policy.
5. What are the uses of trade agreements
6. Write briefly about Bilateral and Multilateral trade agreements

**22.8 SUGGESTED READINGS:**

1. Soderstan : International Economics
2. Enke & Salera : International Economics
3. Mithani, D.M., : International Economics
4. Ruddar Datt and K.P.M. Sundaram : Indian Economy
5. D.M. Mithani and V.S.R. Murthy : Fundamentals of Business Economics.

## **Lesson : 23**

# **BALANCE OF PAYMENTS**

### **23.0 AIMS & OBJECTIVES:**

After reading this lesson you will be able to understand the following:

- \* Different items in balance of payments account.
- \* Equilibrium in Balance of Trade and Balance of payments
- \* Different kinds of disequilibrium in Balance of Payments
- \* Causes for disequilibrium in balance of payments
- \* Steps to correct balance of payments disequilibrium
- \* Indias balance of payments.

### **CONTENTS:**

- 23.1 Introduction**
- 23.2 Balance of Payments Account**
- 23.3 Balance of Trade Equilibrium and Balance of Payments Equilibrium**
- 23.4 Kinds of Disequilibrium in Balance of Payments**
- 23.5 Causes for Disequilibrium in Balance of Payments**
- 23.6 Steps to correct the disequilibrium in Balance of payments**
- 23.7 India's balance of payments**
- 23.8 Summary**
- 23.9 Points to Remember**
- 23.10 Glossary**
- 23.11 Model Questions**
- 23.12 Suggested Readings**

### **23.1 INTRODUCTION:**

When the trade between different countries in the world takes place, transaction of goods and services, capital, technology etc are transfer from the residents of one country to those of the other countries. All international transactions that result in payments to India by other countries (Receipts to India) are called as credit (or plus) entries to India and the payments that made by

India to other countries are called as debit (or minus) entries in balance of payments. These receipts and payments include in national income. The entries relating to this account is called as Balance of Payments account. The following lesson discusses on what is balance of payments ? what is meant by disequilibrium in balance of payments and what steps are required to check the balance of payments disequilibrium.

## 23.2 THE BALANCE OF PAYMENTS ACCOUNTS:

The concept balance of international payments, or simply the balance of payments, of a country is a systematic record of all international economic transactions of that country during a given period, generally a year. In other words, the balance of payments statements is a device for recording all the economic transactions within a given period between the residents of one country and the rest of the world (the residents of the other countries). International transactions such as the transfer of assets and liabilities, the creation or the reduction of claims or the receipts and payments of funds, which take place between the residents of one country and those of other countries are entered in balance of payments.

Balance of payments accounting of any country uses a double entry system of recording accounts with the rest of the world. Thus, the balance of payments account is divided into transactions giving rise to payments (or debit) and receipt (or credit). All international transactions that result in payments in India (receipts to India), for instance, increase India's stock of, or claims on, foreign currencies, and may be recorded as credit (or plus) entries in India's balance of payments. Conversely, all payments by India (receipts to foreigners) deplete India's stock of or claims on, foreign currencies, and may be recorded as debit (or minus) entries in the balance of payments account.

The balance of payments are part of the national or social accounts of a country. In a social accounting, the economy is classified into; (i) Firms (Production sector), (ii) Households (Consumption sector), (iii) Government sector, (iv) Capital sector and (v) Rest of the world sector. The transactions in the "rest of the world sector" are known from the balance of payments of the country.

Balance of payments account is compiled to measure gross deficits or surpluses with the rest of world. Which has become increasingly important in recent years. It guides the country for its monetary, fiscal, exchange and other policies. Thus, the basic aim of the balance of payments statement is to guide governmental authorities about the international economic position of the country and assist them in reaching decisions on monetary and fiscal policies and foreign trade and foreign exchange phenomena.

**THE STRUCTURE OF BALANCE PAYMENTS:** Kindleberger defines balance of payments as "systematic record of all economic transactions between the residents of the reporting country and the residents of foreign countries during a given period of time." It thus, follows that:

1. Balance of payments is a statement of systematic record of all economic transactions between one country and the rest of the world.
2. It is a record pertaining to a period of time. Usually, it is an annual statement.

3. It includes all transactions, current as well as capital; Other characteristics of the balance of payments account are :
- \* It is a way of listing receipts and payments in the international transactions of a country.
  - \* It adopts a double - entry book-keeping system. It has two sides; debit and credit. Payments are recorded on the debt side and receipts on the credit side.

A balance of payments statement summarises of nation's total economic transactions undertaken on international trade account.

- (1) The current account, and
- (2) The capital account.

#### **CURRENT ACCOUNT:**

Current account mainly consists of two sub-groups:

- (i) Merchandise or the trade account, and
- (ii) Invisible account.

In the trade or merchandise account, only the transactions relating to goods are entered, i.e., all goods exported and imported are recorded in the trade account.

The invisible account usually consists of services account and the gifts or charities account (usually referred to as "transfer payments"). The services account records all the services exported and imported by residents of the nation. It consists of such items as banking and insurance charges, interest on loans, tourist expenditure, transport charges etc. Similarly, the gifts or charities account consists of all the nation. It may be in kind or in cash. It goes without saying that these are all referred to as invisible transactions in the balance of payments theory and, therefore, recorded in the invisible account. It is interesting to note here that the International Monetary Fund includes the following items as invisible transactions :

- (i) International transportation of goods, including warehousing while in transit and other transit expenses.
- (ii) Travel for reasons of business, education, health, international conventions or pleasure.
- (iii) Insurance premiums and payment of claims.
- (iv) Investment income, including interest, rents, dividends, profits.
- (v) Miscellaneous service items such as advertising, commissions, film rental, pensions, patent fees, royalties, subscriptions to periodicals and memberships fees.
- (vi) Donations, migrant remittances, legacies.
- (vii) Contractual amortization and depreciation of direct investment.



Further, the current account also comprises items of "unilateral" or "unrequited transfers" in the transfer payment account.

On the credit side, we have thus, "unrequited receipts" i.e., receipts which the residents of a country receive "for free", without having to make any present or future payments in return. Such items are gifts, indemnities etc. received from foreigners. Similarly, on the debit side, there are "unrequited payments" when gifts, indemnities etc. are made to foreigners. Such unrequited or unilateral transfers lack specific return as a quid pro quo.

It should be noted that the current account never includes transactions in financial assets and liabilities. Further, the above-stated meaning of current account connotes its widest definition which is generally accepted. Sometimes, however, narrower definitions of the current account are adopted by some countries in which all or part of the category of unrequited transfers has been excluded; even investment income has been grouped with certain transfers and excluded from the current account, while others exclude official aid grants. For this reason, the term "current account" should always be used by giving an exact definition to avoid ambiguity.

**CAPITAL ACCOUNT:** Capital account deals with payments of debts and claims. It consists of all such items as may be employed in financing both imports and exports, namely, private balances, assistance by the international institutional agencies and specie flow, and balances held on government account. Accordingly, we shall have private capital account, international institutional capital account, specific account, and government capital account. Balances in these accounts may rise or fall from year to year depending upon the account movements or fluctuations in other items on capital account.

Under private capital account, all the private balances held by corporate bodies or commercial banks are recorded. Private capital account usually consists of short and long period adjustments. Obviously, the short period capital movements are caused by changes in short-term liabilities. The long-term capital movement is affected by capital investment, direct or indirect. Direct investment is real investment in industries. Indirect or portfolio investment is financial investment in holding of existing assets.

International institutional capital account consists of assistance from the short and long-term capital supplying agencies like MF, BIS (Bank for International Settlements), World Bank, International Finance Corporation, International Development Association etc.

Specie account records the movements (inflow and outflow) of gold bullion.

The balances on government capital account consist of all governmental capital transactions in the form of grants or loans, short-term as well as long-term.

Items of balance of payments account may, thus, be summarised in Table 1.

It should be noted that the two accounts - current, capital - in the balance of payments should necessarily balance. The surplus in the trade of current account must be equal to the deficit in the capital account or the deficit on the current account or the deficit in the current account.

The balance of payments account is given in Table 23.1 with a numerical example.

### 23.3 BALANCE OF TRADE AND BALANCE OF PAYMENTS:

There is a marked distinction between balance of trade and balance of payments. Balance of payments is a wider concept than balance of trade. Balance of trade refers only to the value of imports and exports of goods, i.e., visible items only. Import or export of goods is a visible item because it is an open trade between the countries and can be easily certified by the customs officials. Where as balance of payments is more comprehensive in scope and covers the total debits and credits of all items, visible as well as invisible. Hence, balance of trade is only a part of the balance of payments. It simply refers to the difference between the value of visible exports and visible imports.

Thus, balance of trade is nothing but a major component of the balance payments (visible only). Where as the balance of payments, which provides a complete record of all international economic transactions (visible and invisible transactions).

**BALANCE OF PAYMENTS ALWAYS BALANCES:** As in the balance of payments statement is drawn up in terms of debits and credit, each transaction recorded are equal in amount but appear on the opposite sides of the balance of payments account. In this accounting sense, balance of payments of a country must always balance.

In the case of pure bilateral trade, all partial balances with different countries should balance. But, in case of multilateral trade, however, only the balance of payments (overall accounts) must be in balance. As such, there it is not necessary that the regional subtotals in the credit account (under multilateral trade) should equal the corresponding subtotals in the debit account. However, the total receipts of a country are necessarily equal to its total payments, if receipts include not only the volume of goods exported but also the volume of gold or other monetary reserves exported in order to obtain purchasing power over that part of imports which is not covered by normal commercial exports.

In other words, debits or payment side of the balance of payments account of a country represents the total of all the uses made out of the total foreign exchange acquired by the country during a given period, while the credit or receipts side represents the sources from which this foreign exchange was acquired by this country in the same period. The two sides as such necessarily balance.

In short, the balance of payments may be thought of as a balance scale with every addition on one side necessitating an addition on the other to keep it in equilibrium.

To illustrate the point, a simple hypothetical account of a country's balance of payments is represented in Table 23.1.

In Table 23.1 rows 1 and 8 show the country's visible exports and imports. Rows 2 and 9 refer to items of invisible trade. Rows 3 and 10 pertain to investment incomes. Row 4 and 11 denote unilateral transfers like donations and gifts (private as well as official). Rows 5, 6, 12 and 13 show capital movement. Rows 7 and 14 reveal gold outflow and gold inflow. Further, items 1 to 7 enumerate receipts and items 8 to 14 show payments. Item 15 refers to the act of errors and omissions as a balancing factor. Thus, total value of both credit and debit sides is the same (Rs. 1000 in our example).

Moreover, all the items 1, 2, 3, 4, 8, 9, 10 and 11 in current account have flow dimension pertaining to the current year for which the balance of payments statement is made. Items 5, 6, 7, 12, 13 and 14 belong to capital account. As Professor Bo Sodersten puts these items are of a distinct nature, because they do not represent flow magnitudes per period of time but are instead changes in stock magnitude during the period under consideration.

**Table 23.1**

**COUNTRY'S BALANCE OF PAYMENTS ACCOUNT**

<b>Credit (Receipts)</b>	<b>I. Current Transactions</b>		<b>Debit (Payments)</b>
<b>Item</b>	<b>Rs. Crores</b>	<b>Item</b>	<b>Rs. Crores</b>
1. Merchandise Trade (goods exported)	200	8. Merchandise trade (goods imported)	300
2. Services exported	100	9. Services imported	200
3. Income from foreign investments	200	10. Foreign income from investment at home	200
4. Unilateral receipts	200	11. Unilateral payments	100
Sub-total	600	Subtotal	800
<b>II. Capital Transactions</b>			
5. Long-term borrowings	200	12. Long-term lendings	80
6. Short-term borrowings	100	13. Short-term lendings	60
7. Sale of gold/assets	100	14. Purchase of gold/assets	50
Sub-total	400	Sub-total	190
		15. Errors and Omissions	10
Grand Total	1000		1000

Table 23.2

**EXTERNAL BALANCE (PREPARED FROM TABLE 12.1)**

I.	Balance of Trade (1 & 8)	200 - 300 = - 100
II.	Balance of Services (2 & 9)	100 - 200 = - 100
III.	Balance of Investment income (3 & 10)	100 - 200 = - 100
IV.	Balance of unilateral transfers (4 & 11)	200 - 100 = +100
	(Rows I + II + III + IV)	
V.	Balance of Current Account	600 - 800 = - 200
VI.	Balance of loan transactions	300 - 140 = +160
	(5, 6, 12, & 13)	
VII.	Balance of monetary gold Flows	
	(7 & 14)	100 - 50 = + 50
VIII.	Balance of Capital Account	
	(Rows V & VII)	400 - 180 = +230
		Errors and Omissions - 10
		Net + 200
IX.	BALANCE OF PAYMENTS	1000 - 1000 = 0

Roman figures in the bracket indicate rows in Table 12.1

It should be noted that the two accounts - current and capital - in the balance of payments should necessarily balance. The surplus on the trade or current account must be equal to the deficit on the capital account or the deficit on the current account must be equal to the surplus on the capital account. Thus, the balance of current account need not be equal but can show a surplus or a deficit. In our example, the balance of current account shows a deficit (-) of Rs. 200 crores. There is, however, a corresponding surplus of Rs. 200 crores in the balance of capital account. As a result, the credit and debit sides of the balance of payments are exactly balanced.

If in the actual balance of payments account the credit and debits do not balance, the balance is usually achieved by adding an item called errors and that compensates for any excess of recorded credits over recorded debits or vice versa. (In our example, it is 10 crores). This total can be large, when balance of payments data are collected from diverse sources. Its analytical significance lies in suggesting a capital outflow (not otherwise recorded) or a wrong valuation of merchandise.

It must be noted that the inevitable equality of debits and credits in the balance of payments follows from interlocking definitions and systems of accounting and does not necessarily imply equilibrium in the real economic sense.

**DISEQUILIBRIUM IN THE BALANCE OF PAYMENTS:** In an accounting sense, balance of payments must always balance. Debits must always equal credits if the entries are consistently made. Thus, there can be no disequilibrium in the balance of payments as a whole.

Thus, when we speak of disequilibrium in the balance of payments, we refer not to the balance of payments as a whole, but to the balance in certain categories or sections of credits and debits in the structure of balance of payments. As Kindleberger puts : "While total credits equal total debits in the balance of payments, a number of partial balances have been devised to indicate the degree of approach to equilibrium".

Hence, the usual analytical approach to the balance of payments is to consider it as the difference between receipts from and payment to foreigners by the residents of the country. Symbolically, thus, the balance of payments may be defined as :

$$B = R_f - P_f$$

where,

B stands for balance of payments,

$R_f$  denotes receipts from foreigners, and

$P_f$  stands for payments made to foreigners.

Clearly thus when B is zero (i.e., when  $R_f - P_f = 0$ ), the balance of payments can be regarded as equilibrium balance of payments. That is to say, a country's balance of payments may be said to be in equilibrium when its receipts are equal to its payments on account of its transactions with other countries of the world. There is disequilibrium, if  $R_f \neq P_f$ .

Equilibrium in balance of payments is a sign of economics soundness. If  $R_f$  is greater than  $P_f$ , then, we can say that the economies balance of payments are favourable (surplus)  $R_f < P_f$ , the balance of payments are unfavourable (deficit).

**KINDS OF DISEQUILIBRIUM IN THE BALANCE OF PAYMENTS:** There are several variables viz., national income at home and abroad the prices of goods and factors, the supply of money, the rate of interest, etc., all of which constitute balance of payments. The main cause for disequilibrium in the balance of payments is imbalance between exports and imports of goods and services. Basing on the causes of disequilibrium, the disequilibrium can be categorised into four kinds. They are:

**CYCLICAL DISEQUILIBRIUM:** The disequilibrium that is caused by the fluctuations in the economic activity or trade cycles is known as cyclical disequilibrium. During the periods of prosperity, prices of goods fall and incomes of the people go down. These changes in incomes of the people and prices of goods affect exports and imports of goods and thereby influence the balance of payments. According to Kindle Berger "If prices rise in

prosperity and decline in depression, a country with a price elasticity for imports greater than unity will experience a tendency for a decline in the value of imports in prosperity, while those for which imports price elasticity is less than one will experience a tendency for increase. These tendencies may be overshadowed by the effects of income changes, of course. Conversely, as prices decline in depression, the elastic demand will bring about an increase in imports, the inelastic demand a decrease".

**SECULAR OR LONG-RUN DISEQUILIBRIUM:** Secular (Long-run) disequilibrium in balance of payments occur because of long-run and deep-seated changes in an economy as it develops from one stage of growth to another.

Secular disequilibrium will occur when either the long-term capital movements get out of adjustment with deep-seated factors affecting savings and investment, or planned savings and investment change without an offsetting change in the movement of long-term capital. If investment adjusted itself readily to the amount of domestic savings plus foreign capital there could be no tendency for secular disequilibrium.

**TECHNOLOGICAL DISEQUILIBRIUM:** Technological disequilibrium in the balance of payments is caused due to various technological changes. Technological changes involve inventions or innovations of new goods or new techniques of production. These technological changes affect the demand for goods and productive factors which in turn influence; the various items in the balance of payments. Each technological change implies a new comparative advantage to which a country adjusts to. The innovation leads to increased exports if it is a new good and export-based innovation. The innovation may lead to decline in imports if it is import-based. This will create a disequilibrium. A new equilibrium will require either increased imports or reduced exports.

**STRUCTURED DISEQUILIBRIUM:** "Structural disequilibrium at the goods level occurs, when a change in demand or supply of exports alters a previously existing equilibrium, or when a change occurs in the basic circumstances under which income is earned or spent abroad, in both cases without the requisite parallel changes elsewhere in the economy".

Suppose demand in foreign countries for Indian handicrafts falls. The resources engaged in the production of these handicrafts must shift to some other line or the country must restrict imports otherwise the country will experience a structural disequilibrium. A change in supply may also cause a structural disequilibrium. Suppose Indian jute crop falls because of the change in the shift in the crop-pattern, Indian jute exports will fall and a disequilibrium will be created. Apart from goods loss of service income may also upset the balance-of-payments position on current account. Besides, the loss of income may arise because foreign investment has proved a failure or it has been confiscated or nationalised, e.g. nationalisation of Anglo-Indian Company in Iran. A war also produces structural changes which may affect not only goods but also factors of production.

A deficit arising from a structural change can be filled by increased production or decreased expenditure, which in turn affect international transactions in increased exports or decreased imports. Actually, it is not so easy because the resources are relatively immobile and expenditure not readily compressible. Under such circumstances, more drastic steps are called for to correct a serious disequilibrium.

"Structural disequilibrium at the factor level results from factor prices which fail to reflect accurately factor endowments...i.e., when factor prices, out or line with factor endowments, distort the structure of production from the allocation of resources which appropriate factor prices would have indicated". If, for instance, the price of labour is too high, it will be used more sparingly and the country will import highly capital-intensive equipment and machinery. This will lead to disequilibrium in the balance of payments on the hand and unemployment of labour on the other.

**STEPS TO CORRECT DISEQUILIBRIUM IN BALANCE OF PAYMENTS:** When serious disequilibrium arises in a country's balance of payments, steps must be taken to correct it, in order to keep the economy in sound condition. The Government should take steps to remove the causes which are responsible for such a state. There are four well-known methods of correcting in adverse balance of payments:

- 1. TRADE POLICY MEASURES: EXPANDING EXPORTS AND RESTRAINING IMPORTS:** The measures that adopted promote exports and reduce imports are called trade policy measures. Exports may be encouraged by the reducing or abolishing export duties and lowering the interest rate on credit used for financing exports. Exports are also encouraged by granting subsidies to manufacturers and exporters. Besides, on export earnings lower income tax can be levied to provide incentives to the exporters to produce and export more goods and services. By imposing lower excise duties, prices of exports can be reduced to make them competitive in the world markets. On the other hand, imports may be reduced by imposing or raising tariffs (i.e., import duties) on imports of goods. Imports may also be restricted through imposing import quotas, introducing licenses for imports. Imports of some inessential items may be totally prohibited.

Before 1991, India had been followed all the above policy measures, but they had not achieved full success. Therefore, India faced great difficulties with regard to balance of payments.

- 2. EXPENDITURE - REDUCING POLICIES:** Another way to reduce deficit in balance of payments is to adopt monetary and fiscal policies that aim at reducing aggregate expenditure in the economy. The reduction in aggregate expenditure in the economy works to reduce imports and help in solving the balance of payments problem. In order to reducing aggregate expenditure there are two important tools (a) tight monetary policy such as (b) contractionary fiscal policy to check the deficit in balance of payments.

**(a) TIGHT MONETARY POLICY:** Tight monetary is used to control aggregate expenditure or demand by raising the cost of bank credit and restricting the availability of credit. For this bank rate is raised by the Central Bank of the country, raising the cash reserve ratio (CRR) of the banks and also undertaking of open market operations (selling Government securities in the open market) by the Central Bank of the country. These steps tends to lower aggregate expenditure or demand which will helps in reducing imports. But there are limitations of the successful use of monetary policy to check imports, especially in a developing country like India. This

is because tight monetary policy adversely affects investment increase in which is necessary for accelerating economic growth.

**(b) CONTRACTIONARY FISCAL POLICY:** Fiscal policy is based as an important means of reducing aggregate expenditure. An increase in direct taxes such as income tax will reduce aggregate expenditure. A part of reduction in expenditure may lead to decrease in imports. Increase in indirect taxes such as excise duties and sales tax will also cause reduction in expenditure. The other fiscal policy measures to reduce Government expenditure, especially unproductive or non-developmental expenditure. The reduction in Government expenditure will not only reduce expenditure directly but also indirectly through the operation of multiplier.

3. **EXPENDITURE - SWITCHING POLICIES - DEVALUATION:** An important method which is quite often used to correct fundamental disequilibrium in balance payments is the use of expenditure-switching policies. Expenditure switching policies work through changes in relative prices. Prices of imports are increased by making domestically produced goods relatively cheaper. Expenditure switching policies may lower the prices of exports which will encourage exports of a country. In this way by changing relative prices, expenditure-switching policies help correcting disequilibrium in balance of payments.

The important form of expenditure switching policy is the reduction in foreign exchange rate of national currency, namely, devaluation. By devaluation we mean reducing the value or exchange of a national currency with respect to other foreign currencies. It should be remembered that valuation is made when a country is under fixed exchange rate system and occasionally decides to the exchange rate of its currency to improve its balance of payments. Under the Bretton Woods system adopted in 1946, fixed exchange rate system was adopted, but to correct fundamental disequilibrium in the balance of payments, the countries were allowed to make devaluation of their currencies with the permission of IMF. Now, Bretton Woods System has been abandoned and most the countries of the world have floated their currencies and have thus adopted the system of flexible exchange rates as determined by market forces of demand for and supply of them. However, in the present flexible exchange rate system, the value of a currency or its exchange rate as determined by demand for and supply of it can fall. Fall in the value of a currency with respect to foreign currencies as determined by demand and supply conditions is described as depreciation. If a country permits its currency to depreciate without taking effective steps to check it, it will have the same effects as devaluation. Thus, in our analysis we will discuss the effects of a fall in value of a currency whether it is brought about through devaluation or depreciation. In July 1991, when India was under Bretton-Woods fixed exchange rate system, it devalued its rupee to the extent of about 20%. (From Rs. 20 per dollar to Rs. 25 per dollar) to correct disequilibrium in the balance of payments.



To sum up, it follows from above that for devaluation or depreciation to be successful in correcting disequilibrium in the balance of payments, the sum of price elasticities of demand for a country's exports and imports should be high (that is, greater than one) and secondly it should have sufficient exportable surplus. The devaluation will also not be successful in the achievement of its aim if other countries realiate and make similar devaluation in their currencies and thus competitive devaluation of the exchange rate may start.

**Exchange Control:** Finally, there is another method called method of exchange control. It is known fact that deflation is dangerous; devaluation has a temporary effect and may provoke others also to devalue. Further valuation also hits the prestige of a country. In order to avoid these methods foreign exchange in the central bank of a country and it is then rationed out among the licensed importers. None else is allowed to import goods without a licence. The balance of payments is thus rectified by keeping the imports within limits.

In nutshell correction of disequilibrium calls for a judicious combination of the following methods, namely (i) Monetary and fiscal changes affecting income and prices in the country (ii) Exchange rate adjustment i.e., devaluation or appreciation of the home currency; (iii) Trade restrictions, i.e., tariffs, quotas, etc; (iv) Capital movement i.e., borrowing or lending abroad; and (v) Exchange control.

## 23.7 INDIA'S BALANCE OF PAYMENTS:

The balance of payments of India is classified into (a) balance of payments on current account, and (b) balance of payments on capital account. The current account of the balance of payments of India includes three items : (a) visible trade relating to imports and exports; (b) invisible items, viz., receipts and payments for such services as shipping, banking, insurance, travel etc., and (c) unilateral transfers such as donations. The current account shows whether India has a favourable balance or deficit balance of payments in any given year. The balance of payments on capital account shows the implications of current transactions for the country's international financial position. For instance, the surplus and the deficit of the current account are reflected in the capital account, through changes in the foreign exchange reserves of country, which are an index of the current strength or weakness of a country's international payments position, are also included in the capital account.

1. **INDIA'S BALANCE OF PAYMENTS ON CURRENT ACCOUNT:** The India's balance of payments during plan period is given in Table 23.3.

**1951 - 52 TO 1952 - 56 - THE FIRST PLAN PERIOD:** The balance of payments was affected by the Korean War boom, American recession of 1953.

India has experienced persistent trade deficit India's adverse balance of payment during the First Plan was only Rs. 42 crores. However, the overall picture during the First Plan was quite satisfactory.

**1956 - 57 TO 1960 - 61 - THE SECOND PLAN PERIOD:** The balance of payments during the Second Plan period was of the order is 1,725 crores. This highly unfavourable balance of payments in the Second Plan was due to (a) heavy

investments on capital goods to develop heavy and basic industries (b) the failure of agricultural production to rise standard of living the growing population and expanding industry; inability of the economy to increase exports; and (d) necessity of making minimum 'maintenance imports' developing economy.

**THIRD PLAN AND ANNUAL PLANS AND BOP:** The balance on current account was unfavourable during the Third Plan. This was only because (a) imports were expanding faster under impact of defence and development and to overcome the shortages (import of foodgrains, for example) (b) exports were extremely sluggish and failed to match exports. The imbalance in the current account of over Rs. 61 crores was financed by loans from foreign countries, and 80 and PL 665 funds, loans from the World Bank and I.M.F. In spite of all these loans, SDRs and withdrawals, there was also some depletion foreign exchange reserves of the country.

**1969 - 70 TO 1973 - 74: THE FOURTH PERIOD:** During the fourth plan on the import side, restriction of imports was made possible through good crops in 1968 - 69 and 1970 - 71, and consequent significant reduction of imports of foodgrains. On the export side, vigorous export promotion measures succeeded in boosting exports of traditional as well as non-traditional items.

The abnormal favourableness in the invisibles account in 1973-74 was due to the receipt of Rs. 1,680 crores from U.S.A. on the deposition of PL 480 and other rupee funds. The trade deficit during the Fourth Plan was Rs. 1,564 crores and the surplus in net invisibles accounted for Rs. 1,664 crores. The net result was a surplus in the balance of payments, for the first time, though the surplus was only a nominal amount of Rs. 100 crores.

**1975 - 76 TO 1978 - 79 : THE FIFTH PLAN PERIOD:** Trade balance was affected in Vth Plan by two factors : (a) the value of imports was rapidly mounting due to the hike in oil prices, and (b) the value of exports was also rising under the impact of promotional measures. These two factors explained the gradual decline in the deficit in the trade balance and the appearance of a surplus in the trade balance in 1976 - 77. But the persistent upward rise in imports and the inadequate increase in exports due to the relative decline in export prices were responsible for the revival of deficit trade balance in the last two years of the Fifth Plan period.

**THE SIXTH AND THE SEVENTH PLAN PERIOD:** There has been a sea change in the balance of payments position since 1979 - 80. As against the surplus balance of payments experienced by the country during the period and much more lower rate of growth of exports since 1979 - 80 on the other. The trade deficit which was more than offset by the flow of funds under net invisibles during the Fifth Plan period, could not be so offset since 1979 - 80. The current balance of payments became adverse to the tune of Rs. 11,384 crores during the Sixth Plan. Apart from net external assistance, India had to meet this colossal deficit in the current account through withdrawals of SDRs and borrowing from IMF under the extended facility arrangement. Besides, India used part of its accumulated foreign exchange reserves to meet its deficit in the balance of payments.

During 1985 - 86 and 1989 - 90, the total trade deficit amounted to Rs. 54,204 crores for the Seventh Plan. Making an adjustment for the positive balance on invisible account, the deficit in balance of payment on current account was Rs. 41,047 crores. The highly adverse balance of payments position was the cause for serious concern.

**1990 - 91 AND THEREAFTER:** For the first time during the last 40 years, net invisibles became negative to the tune of Rs. 435 crores in 1990 - 91. This was largely the consequence of a net outflow of investment income of the order of Rs. 6,732 crores in 1990 - 91 as against Rs. 4,875 crores in 1989 - 90 - as increase by 38 per cent. Thus, the cushion available through net invisibles to partly neutralise the trade deficit was removed.

During the Eighth Plan (1992 - 93 to 1996 - 97), trade deficit has been mounting, by 1996 - 97, it has reached a record level of Rs. 52,561 crores from that of Rs. 16,934 crores in 1990 - 91 - a threefold increase. For the Eighth Plan period, invisibles neutralised the trade deficit to the extent of about 58 per cent - a really commendable achievement. Despite this, the balance of payments has shown continuously a deficit in all the years.

During 1997 - 98, the current account deficit reached a record level of Rs. 20,883 crores and during 1998 - 99, it declined to Rs. 16,789 crores. In 1999 - 2000, it again increased to Rs. 20,331 crores. This was largely due to a much greater trade deficit of the order of Rs. 77,359 crores which could not be neutralised through net invisibles earned a surplus of Rs. 57,028 crores. The situation improved in 2000 - 01 and the current account deficit declined to Rs. 16,401 crores.

During 2001-02, although trade deficit was higher at Rs. 60,427, but the heavy receipts on account of invisibles amounting to Rs. 64,161 crores not only wiped out the trade deficit, they also created a surplus in current account balance of the order of Rs. 3,734 crores.

**Table 23.3 India's Balance of Payments on Current Account (1950 - 51 to 2003 - 04)**

**(Rs. crores)**

Year	Trade Deficit	Net Invisibles	Balance of Payments	3 as % 2
(1)	(2)	(3)	(4)	(5)
First Plan	-542	+500	-42	92.2
Second Plan	-2,339	+614	-1,725	26.5
Third Plan	-2,382	+431	-1,951	81.1
Annual Plans	-2,067	+52	-2,015	2.5

Fourth Plan	-1,564	+1,664	+100	106.4
Fifth Plan	-3,179	+6,231	+3,082	195.7
1979 - 80	-3,374	+3,140	-234	93.1
<b>Sixth Plan</b>				
<b>Total (1980 - 85)</b>	<b>-30,456</b>	<b>+19,072</b>	<b>-11,384</b>	<b>62.6</b>
<b>Seventh Plan</b>				
<b>Total (1985 - 90)</b>	<b>-54,204</b>	<b>+13,157</b>	<b>-41,047</b>	<b>24.3</b>
1990 - 91	-16,934	- 433	-17,367	-2.6
1991 - 92	-6,494	+4,259	-2,235	65.6
<b>Eighth Plan</b>				
1992 - 93	-17,239	+4,475	-12,764	26.0
1993 - 94	-12,723	+9,089	-3,634	71.4
1994 - 95	-28,420	+17,835	-10,585	62.8
1995 - 96	-38,061	+18,415	-19,646	48.5
1996 - 97	-52,561	+36,279	-16,283	69.9
<b>Total 1992 - 97</b>	<b>149,004</b>	<b>+86,090</b>	<b>-62,914</b>	<b>57.7</b>
<b>Ninth Plan</b>				
1997 - 98	-57,805	+36,923	-20,883	63.9
1998 - 99	--55,478	+38,689	-16,789	69.7
1999 - 2000	-77,359	+57,028	-20,331	73.7
2000-01*	-65,376	+48,975	-16,401	74.9
2001-02**	-60,427	+64,161	+3,734	101.7
<b>Total 1997-02</b>	<b>-316,445</b>	<b>+245,775</b>	<b>-70,670</b>	<b>77.7</b>
159.3	2002-03*	-51,697	82,357	+30,660
2003 - 04*	-63,386	127,369	+63,983	200.9
2004-05	-164,542	139,756	-24,786	84.9

\* Revised partially revised

\*\* Provisional

Source : RBI, Handbook of Statistics on Indian Economy (2004 - 05) and RBI Bulletin May 2006.

During the first two years of the Tenth Plan, in 2002-03 again our current account balance was positive to the extent of Rs. 30,660 crores and during 2003-04, it was of the order of Rs. 63,983 crores. But this was the consequence of a heavy surplus on invisibles account which not only wiped out the trade deficit, but yielded a net positive balance on current account.

However, during 2004-05, there was a huge trade deficit of the order of Rs. 1,64,542 crores on account of an increase in our imports, although our exports showed a big jump. There is no doubt that our economy showed a record positive balance of Rs. 1,39,756 net invisibles in 2004-05, but this could wipe out the trade deficit to the extent of 85 percent, consequently, a current deficit of Rs. 24,786 crores was witnessed in 2004-05. This is an unhealthy development, but since the same policy of import liberalisation is being pursued in 2005-06, the situation is likely to worsen further. This is of serious concern.

**INDIA'S BALANCE OF PAYMENTS CRISIS, 1991:** The crisis of Indian Economy of 1991 which led to the liberalisation and other structural reforms in the India economy had roots in balance of payments problem which emerged in acute form in 1990-91. As will be seen from Table 29.1 during the later half of eighties (1985 - 90) average annual current account deficit in balance of payment was 2.2 per cent of GDP and rose to 3.1 per cent of GDP in 1990 - 91. Gulf war of 1991 added to the balance of payments problem in two ways. First, this war caused sharp rise in prices of crude oil and petroleum products which substantially increased the import bill of the Indian Economy. Secondly, inward remittances by the Indian workers working in the Gulf countries which were important source of foreign exchange during the eighties stopped due to war conditions.

But in addition to Gulf war there were many other causes of large deficits on current account balance incurred year after year. In the external sector, an important reason for current account deficit was over-valued exchange rate of rupee which made our exports costlier and imports cheaper. This caused sluggish growth in exports, while imports sharply increased. This contributed to current account deficit.

Table 29.1

## Balance of Payments Indicators (as % of GDP)

Item/Year	1985 90	1990 91	1996 97	1997 98	1998 99	1999 2000	2000 2001	2001 2002	2002 2003
Exports	4.8	5.8	8.9	8.7	8.3	8.4	9.8	9.4	10.3
Imports	7.7	8.8	12.7	12.5	11.5	12.4	13.0	12.0	12.8
Trade Balance	-3.0	-3.0	-3.8	-3.8	-3.2	-4.0	-3.2	-2.6	-2.5
Invisibles, net	0.79	-0.1	2.7	2.4	2.2	2.9	2.3	2.8	3.3
Current Account Balance	<b>-2.2</b>	<b>-3.1</b>	<b>-1.2</b>	<b>-1.4</b>	<b>-1.0</b>	<b>-1.1</b>	<b>-0.8</b>	<b>-0.2</b>	<b>0.8</b>
Capital Account Surplus	2.2	2.3	3.0	2.4	2.0	2.3	2.0	-	-
of which									
Foreign investment	0.10	0.03	1.60	1.31	0.58	1.17	1.11	1.1	0.97
External assistance	0.68	0.70	0.29	0.23	0.20	0.20	0.10	-14.3	-18.2
External Commercial borrowing	0.57	0.71	0.73	0.96	1.06	0.07	0.90	-	-
NRI deposits	0.67	0.48	0.87	0.28	0.23	0.35	0.51	-	-
IMF net	-0.26	0.38	0.25	-0.15	-0.09	-0.06	-0.01	-	-

Secondly, our foreign trade policy which was one of import substitution was biased against exports. Dr. Manmohan Singh had warned against this much earlier. Dr. Manmohan Singh writes "On the one hand, there was a wide-spread feeling that not much could be done to increase export earnings in view of the stagnant demand of India's major exports. On the otherhand, responsible economists were assuring the country that import-substitution would by itself be able to solve India's balance of payments difficulties. The result was neglect of exports"

It is evident from above that export-pessimism prevented Indian Government for adopting aggressive export promoting policies. This was largely responsible for slow growth of Indian exports. The extent of anti-export bias in trade and balance of payments policies can be judged by the fact that in 1985 - 86 our merchandise exports accounted for only 4.1 per cent of GDP whereas imports formed 7.6 per cent of GDP, that is, 80 per cent higher than that of exports giving rise to trade deficit of 3.5 per cent of GDP which is of a very high order.

For the five-year period, 1985 - 90 the trade deficit averaged 3 per cent of GDP while current account deficit averaged 2.2 per cent of GDP (See Table 23.2). These large trade and current account deficits during the later half of eighties were financed by various forms of external borrowing such as external assistance, commercial borrowing and NRI deposits. Besides, to meet these current account deficits, foreign

exchange reserves were also run down. The large-scale borrowing led to substantial increase in annual interest payments to be made in addition to paying back the funds borrowed over a time span. As a result of heavy commercial borrowing in the later half of eighties, debt-service ratio (i.e., ratio of debt service charges to the current receipts of current account balance) sharply rose to 35 per cent in 1990 - 91 (See Table 29.2). This was also responsible for deterioration in deficit in balance of payments.

**EXTERNAL SECTOR REFORMS IN INDIA:** To overcome balance of payments crisis 1991, and restore economic health to the external sector, various measures of stabilisation and structural reforms were undertaken by the new Congress Government with Dr. Manmohan Singh as the Finance Minister. They are briefly explained below.

- 1. DEVALUATION OF RUPEE:** In order to discourage imports, Indian rupee was devalued on July 1, 1991 and again on July 3, 1991. In the two doses of devaluation, the rupee value in terms of foreign currency declined on an average by 23.8 per cent. The devaluation of the rupee in July 1991 was followed by the withdrawal of cash compensatory subsidy to exporters which prevailed before.
- 2. REDUCTION IN CUSTOMS DUTIES:** Customs duties on imports were reduced not only to increase the competitiveness of Indian exports but to serve other purposes, such as to check cost-push inflation which arose due to devaluation of India rupee, to reduce the prices of exportable goods which used a large quantity of imported raw materials and capital goods. Lowering the customs duties exposed Indian industries to foreign competition.
- 3. ASSISTANCE FROM IMF AND WORLD BANK:** With a view to overcome balance of payments difficulty, India has obtained financial aid from IMF and World Bank. IMF agreed to provide aid only if India fulfilled its preconditions such as devalue our rupee, liberalise imports by lowering customs duties and introduce structural reforms by undertaking various measures of domestic liberalisation. India accepted these conditions and got assistance from IMF.
- 4. CUT IN FISCAL DEFICIT:** Rising fiscal deficit in the eighties was an important cause of worsening of the balance of payments. Therefore in order to check the balance of payments, steps were taken to reduce fiscal deficit. The fiscal deficit of the Central Government which was 8.5 per cent of GDP in 1987 - 88 and 7.3 per cent of GDP both in 1988 - 89 and 1989 - 90 was reduced to 4.7 per cent in 1991 - 92 by reducing Government expenditure and introducing tax reforms. Fiscal deficit of Central Government deteriorated to 6.4 per cent of GDP in 1993 - 94 but was again brought down to 4.2 per cent in 1995 - 96. So reduction in fiscal deficit caused growth in aggregate demand to decline which helped in lowering the rate of inflation.
- 5. SWITCH-OVER TO MARK-DETERMINED EXCHANGE RATE:** Another important measure adopted to tackle the balance of payments problem, exchange rate was made market determined with effect from 1993. So the exchange

rate to be determined by demand for and supply of foreign currencies and Indian rupee. The exchange rate fell down and it acted as an incentive to exporters and to NRI remitting funds to India. Imports became more expensive which restrained the growth of imports.

- 6. ELIMINATION OF ANTI-EXPORT BIAS:** An important reform in the internal sector was change in India's trade policy which had anti-export bias and pro-import-substitution bias. The new trade policy was to lower customs duties so as to reduce protection to large-scale industries. Protection reduces productivity and efficiency through eliminating foreign competition.

#### **SUCCESS OF EXTERNAL SECTOR REFORMS:**

1. The above reforms to improve the performance of India's external sector. Export growth raised to 20.2 per cent in 1993 - 94, 18.4 per cent in 1994 - 95 and to 20.3 per cent in 1995 - 96. After registering slow growth in the next four years due to global slowdown, growth rate of 19.6 and 17 per cent in 2000 - 01 and 2002 - 03 respectively was attained. This is due to more efficient management of changes in foreign exchange rate as an essential part of economic reforms.
2. An important benefit of external sector reforms has been improvement in current account balance of payments. The deficit in current account balance which was 3.1 per cent of  $GDP_{mp}$  in 1990 - 91, fell to 0.4 per cent in 1993 - 94, went up to 1.4 per cent in 1997 - 98 but again fell to 0.8 per cent in 2000-01. The significant point to note is that throughout the nineties after 1991, current account deficit in balance of payments never exceeded two per cent of  $GDP_{mp}$ . It is important to note that in the last three years (2001 - 02, 2002 - 03, 2003 - 04), the surplus in current account has been achieved (see Table 23.4). This is no means achievement of economic reforms in the external sector.
3. Another big achievement of the external sector is the flows of foreign investment in India which has contributed a good deal to the growth of industrial production and Indian exports rose sharply from only 103 million US \$ in 1990 -91 climbed to 26 billion US \$ in 1997 - 98, 5 times increase in seven years. There has been greater inflows of foreign exchange in the last few years with the result that foreign exchange reserves in India reached a peak of 120 billion US dollar in July 2004.
4. Foreign exchange reserves in India which were a meagre amount of 5.8 billion US \$ in 1990 - 91 climbed to 26 billion US \$ in 1997 - 98, 5 times increase in seven years. There has been greater inflows of foreign exchange in the last few years with the result that foreign exchange reserves in India reached a peak of 120 billion US dollar in July 2004.



Table 23.4 Parameters of India's External Debt

	External Debt GDP Ratio	External Debt- Service Ratio	External Debt- Exports Ratio	Percentage of Short-Term Debt to Total Debt	Percentage of Short-Term Debt to Foreign Exchange Reserves
1990 - 91	28.7	35.3	491.7	10.3	146.5
1991 - 92	38.7	30.2	563.0	8.2	141.6
1992 - 93	37.6	27.5	512.7	7.1	98.3
1993 - 94	33.8	25.0	408.2	3.9	24.4
1994 - 95	30.9	26.2	369.0	4.5	20.4
1995 - 96	27.1	24.3	295.7	5.2	23.2
1996 - 97	24.7	21.2	277.1	7.2	25.5
1997 - 98	24.4	19.0	278.6	5.4	17.2
1998 - 99	23.6	18.8	283.0	4.4	13.2
1999 - 2000	23.1	17.1	262.0	4.0	10.3
2000 - 01	23.6	16.2	232	3.6	6.6
2001 - 02	21.1	13.4	95.8	5.4	5.7
2002 - 03	8.7	15.8	76.8	10.6	6.0
2003 - 04	7.3	18.1	64.9	15.9	5.7

Note : Flows refer to fiscal year indicated while stocks relate to the end of the year indicated

Source : Shankar Acharya, Macroeconomic Management in the Nineties, EPW, April 20, 2002 and Economic Survey 2003 - 04.

- High external debt ratio (that is, ratio of external debt to current receipts) of 35 per cent in 1990 - 91 which contributed to our balance of payments problem in 1991, was brought down to about half of that (i.e. 17 per cent) in 1999 - 2000 (See table 29.2). This has significantly reduced our burden of external debt relative to our GDP.

**RECENT TRENDS IN INDIA'S BALANCE OF PAYMENTS:** In recent three years (2001 - 04) India's balance of payments has been characterised by surplus in both the current and capital accounts. This trend is consistent with that of most economies of developing countries of Asia which began showing surpluses in their current accounts from the later part of 1990s, particularly the East Asian economies like Indonesia, Malaysia, Philippines and Thailand.

The capital account of India has also continued to be strong. Earlier, the capital account surplus in India's balance of payments used to be partially offset by current account deficits leading to lower overall surpluses. However, since 2001 - 02, surplus in both the current and capital accounts have resulted in larger overall surpluses which have led to accumulation of the large amount of foreign exchange reserves in the country.

### **23.9 SUMMARY:**

According to Kindle Berger 'Systematic Record of all economic transactions between the residents of the reporting country and the residents of foreign countries during a given period of time'. Balance of payment account record adopts a double-entry book keeping. So that total receipts (credits) must equal to total payments (debits). Balance of payments of a country is in equilibrium when the total receipts of a country is equal to total payments. Otherwise, the balance of payments are in disequilibrium. If total receipts are more than total payments then it will be called as surplus balance of payments or favourable balance of payments. When the receipts are less than payments then it will be called as deficit balance of payments or unfavourable balance payments. The Government has to take steps such as deflation, reduction, exchange rates, devaluation etc for corresponding the unfavourable balance of payments.

### **23.9 POINTS TO BE REMEMBERED:**

1. The balance of payments of a country is nothing but the systematic record of all international economic transactions of that country during a period, usually a year.
2. The balance of payments account comprises of current transactions capital transactions and gold transactions.
3. A balance of payments equilibrium will be told on the basis of income account.
4. In income account, if receipts are more than payments then the balance of payments will be called as favourable balance of payments and payments are more than receipts it is unfavourable.
5. There are four kinds of disequilibrium of balance of payments, namely 1. cyclical, 2. secular, 3. structural and primary.
6. Natural factors, changes in tastes and fashions, technological changes, inflation, development level, demonstration effect etc are responsible for disequilibrium in balance of payments.
7. Measures such as deflation, reduction in exchange rates devaluation, export promotion, import substitution, encouraging foreign investment etc will be taken up to correct the disequilibrium in balance of payments.

**23.10 GLOSSARY:**

1. **Demonstration Effect** : Imitation the consumption habits of rich country people by the developing countries people.
2. **Trade Cycles** : Rhythematic fluctuations business activities is known as trade cycles.
3. **Inflation** : Continuous raising of prices.

**23.11 MODEL QUESTIONS:****I. ESSAY TYPE QUESTIONS:**

1. Explain the balance of payments account and write the steps to correct disequilibrium in balance of payments.

**II. SHORT ESSAY TYPE QUESTIONS:**

1. Explain various accounts in balance of payments and what are different kinds of disequilibrium.
2. Whar are the causes of disequilibrium in balance of payments and how it can be corrected.

**III. VERY SHORT ANSWER QUESTIONS:**

1. Equilibrium in balance of Trade and Balance of Payments
2. Balance of payments account.
3. Different types of disequilibrium in balance of payments.

**23.12 SUGGESTED READINGS:**

1. Soderston B.O. : International Economics
2. David Young : International Economics
3. Enke and Salera : International Economics
4. Mithani D.M. : International Economics
5. H.L. Ahuja : Economic Environment of Business
6. Ruddar Dutt and Sundaram : Indian Economy

## **Lesson : 24**

# **GENERAL AGREEMENT ON TARIFFS AND TRADE (GATT), WORLD TRADE ORGANISATION (WTO)**

## **22.0 AIMS & OBJECTIVES:**

After reading this lesson you will be able to understand the following:

- \* What is meant by GATT and how it is formed
- \* Objectives of GATT
- \* GATT Conferences
- \* Main Itmes of Uruguay round
- \* Most Favoured Nations Clause
- \* Social Clause
- \* TRIPS and TRIMS
- \* Causes for origin of WTO Features of WTO
- \* Administrative Machinery of WTO
- \* WTO and India

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  - 24.2.3 Tariff Negotiations**
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  - 24.2.5 Uruguay Round**
- 24.3 World Trade Organisation (W.T.O.)**
  - 24.3.1 Features of WTO**
  - 24.3.2 Structure of WTO**

**24.3.3 Objectives and Functions of WTO****24.3.4 The WTO Code/Agreements****24.4 WTO and India****24.5 Summary****24.6 Points to Remember****24.7 Glossary****24.8 Model Questions****24.9 Suggested Readings****22.1 INTRODUCTION:**

General Agreement on Trade and Tariff (GATT) was set up to guide the international trading system based on rules and principles agreed between the member countries. From 1986 onwards several rounds of talks were held under the auspices of GATT to promote free and fair trade among nations. On January 1, 1995 WTO replaced GATT which had acted as an interim World Trade Organisation as watch dog since 1948.

**24.2 GENERAL AGREEMENT TARIFFS AND TRADE (GATT):**

It was thought that for healthy world trade, attempt will be must to relax the existing trade restrictions, such as tariff. As such, at the International Conference on Trade and Employment held in 1946 at Havana, a proposal for establishing an International Trade Organisation (ITO) was made with an objective of augmenting and maintaining world trade and employment.

However, some of the countries took up one of the important issues of the Havana Charter i.e., relaxation of trade restrictions by incorporating it into a General Agreement on Tariffs and Trade (GATT) 1947. Some twenty-three major trading nations, including India signed it. GATT membership has now gone up to more than 64. The General Agreement was concerned only with tariffs and trade restrictions and related international matters. It serves as an important international forum for carrying on negotiations on tariffs. The member nations of GATT meet at regular intervals to negotiate agreements to reduce quotas, tariffs and such other restrictions on international trade.

**24.2.1 MAIN OBJECTIVES OF GATT:** By reducing tariff barriers and eliminating discrimination in international trade, the GATT aims at:

1. Expansion of international trade.
2. Increase of world production by ensuring full employment in the participating nations.
3. Development and full utilisation of world resources; and
4. Raising standard of living of the world community as a whole.

The articles of the GATT do not provide directives for realising these objectives. But, these are to be indirectly achieved by the GATT through the promotion of free (unrestricted) and multilateral international trade. As such certain rules are adopted by GATT are based on the following fundamental principles.

1. trade should be conducted in a non-discriminatory way.
2. the use of quantitative restrictions should be condemned; and
3. disagreements should be resolved through consultations.

In nutshell, members of GATT agree to reduce trade barriers and to eliminate discrimination in international trade so that multilateral and free trade may be promoted, leading to wider dimensions of world trade and prosperity.

**24.2.2 MOST FAVOURED NATIONS CLAUSE:** In order to ensure against discrimination, members of GATT agree to grant to each other unconditional most favoured nation status in all import and export duties, with certain exceptions. Article I of the Agreement deals with the 'most favoured nation clause'. The meaning of that clause is that any advantage, favour, privilege or immunity granted by a contracting part to any product originating in or destined for any other country shall be accorded immediately and unconditionally to a like product originating in or destined for the territories of all other contracting parties. Thus the principle of most favoured nation implies that each nation should be treated as the most favoured nation. As such, the contracting parties are forbidden from granting any new preference. The negotiations and concessions materialised under bilateral agreements should be extended to all member countries on an equal basis so that the concessions are multilateralised. It also signified that the permitted quantitative restrictions should be administered without favouring any party.

**22.2.3 TARIFF NEGOTIATIONS:** GATT recognised that tariffs are the main impediments to the growth of international trade. As such, the contracting parties are authorised to occasionally negotiate for a substantial reduction of tariffs. The guidelines that are to be followed in tariff negotiations are:

1. Reduction in tariffs are to be negotiated on a reciprocal and mutually advantageous basis.
2. The negotiations should be either for reduction of tariffs or binding of low tariffs. Binding of low tariffs is advantageous as traders will be assured of the continuance of low tariffs so that they can take up business expansion and productive investments without any risk (of high tariff).
3. Each member has to work in good faith and not raise its tariff and other quantitative measures with a view to increasing its bargaining power in tariff negotiations (when anticipated).

**24.2.4 THE KENNEDY ROUND:** There were five conferences (rounds) of international trade negotiations under the auspices of the GATT. Where conducted prior to Kennedy round. The first round was at Geneva in 1947, the second at Annecy : France in 1949, the third was at Torquay : U.K. in 1950 – 51, the fourth was Geneva : 1955 – 56, fifth round was

again at Geneva in 1954 – 62 called Dillon Round. The Rounds basically aimed at reduction of tariffs.

The reformed negotiations under GATT are called “Kennedy Round” because these were made possible by the U.S. Trade Expansion Act of October 1962, sponsored by the late President (the U.S. Administration) to negotiate tariff reductions of in general up to 50 per cent and also prepared the way for the opening of the Kennedy Round of trade negotiations at Geneva in May 1964.

On May 6, 1964 the Trade Negotiations Committee consisting of ministers of the participating nations, conducted the Kennedy round trade negotiations. The Trade Negotiations Committee agreed in its resolution that a rate of 50 per cent should be taken as a working hypothesis for the determination of the general rate of linear reduction of tariffs on non-agriculture products by the industrialised nations. In regard to agriculture, it was agreed that the Kennedy Round shall provide for acceptable conditions of access to international markets for agricultural commodities.

In March 1965, the Trade Negotiations Committee took up the procedures for negotiations on agriculture. By September 1965 nearly all developed nations tabled their offers. On account of internal difficulties, the European Economic Community, however, tabled its offers in August 1966. Similarly, a plan for the participation of the less developed nations was also adopted by the Trade Negotiations Committee in March 1965.

Very intensive negotiations, however, took place in April May 1967, as the time-table for completion of the Kennedy Round were in the form of several ‘packages covering essential elements’ of trade. Thus, on June 30, 1967, the Final Act of these negotiations was signed. These results were incorporated in the schedules to the ‘Geneva (1967) Protocol to the General Agreement on Trade’. Consequently, in late 1968, sixteen advanced western countries agreed on a joint offer to cut tariffs on American exports in order to ease American balance of payments difficulties. Ten to 16 nations would implement 60 per cent of the agreed cuts from January 1969, while the U.S. is required to implement to cuts by 40 per cent.

The overall results in the Kennedy Round were very substantial and of a magnitude larger than any such multilateral negotiation in the past. However, the developing countries remained unsatisfied by the Kennedy Round as their trading problems did not receive the attention and priority they deserved and as such they were not solved. Moreover, the negotiations under the Kennedy Round were largely designed to reduce and remove the existing trade barriers, so as to help reap the benefits of modern technology and to promote trade relations with regional groupings. All these were immediate concern to developed countries only.

The tariff negotiations in Kennedy Round were concentrated largely on products of major export interest to the developed nations, to the neglect of the export needs of the developing countries. Thus, at the UNCTAD meeting in 1964, the delegates unanimously opined that GATT has not fully satisfied the trade policy and economic growth of the less developed countries.

The Seventh conference (round) of GATT negotiations was held at Tokyo during 1973 – 1979. Major issues discussed were : reducing tariffs; removal of non-tariff barriers; and trade liberalisation in agrarian sector.

Several agreements, such as : on customs valuation, subsidies, countervailing duties, technical barriers, dairy products, import licensing procedures, trade in civil aircraft, Bovine meat, and government procurement were concluded.

The Tokyo Round is criticised for its bias towards interest of the developed countries.

#### 24.2.5 URUGUAY ROUND OF THE GATT:

**THE URUGUAY ROUND:** The Eighth Round of Multilateral Trade Negotiations (MTN) of the GATT participants – commonly referred to as the Uruguay Round – was launched at Punta Del Este in Uruguay, Latin America, in September 1986 in a special session and after eight weary years, has been concluded on the 15<sup>th</sup> December, 1993, at Geneva. The Treaty of the Uruguay Round will become effective in April 1995.

The Uruguay Round of GATT, however, grossly differs from its earlier rounds, involving many different rules of international trade and negotiations which are redefined, restructured, refashioned, besides the addition of new issues of strategic importance and far-reaching implications in evolving an altogether New International Economic Order (NIEO) in the forthcoming century. The South Commission, in its third meeting at Mexico, on 5 – 8 August 1988, explicitly described the Uruguay Round as “an attempt to tackle issues of strategic importance for the design and management of the global economy, including the linkages between money, trade and finance. In a number of respects, the outcome of the Uruguay Round may vitally affect the domestic development and future options of the developing countries”.

A nutshell review the eight Rounds of the GATT is captured in Table 24.1.

**TABLE 24.1**

#### **Global Trade and Negotiations Rounds (Conferences) of the GATT**

<b>Round Year</b>	<b>Venue</b>	<b>Outcome</b>
First 1947	Geneva (Switzerland)	First GATT Agreement was signed. 20 tariff schedules were formed. 45,000 tariff concessions were exchanged.
Second 1949	Annecy (France)	Tariffs on specific products reduced but no significant cuts. Some 5,000 tariff concessions exchanged.
Third 1950 - 51	Torquay (England)	Tariffs on specific products reduced. Around 8,700 tariff concessions exchanged.



Business Economics	24. 6	General Agreement ...
Fourth 1956	Geneva (Switzerland)	Tariffs on specific products reduced, but not significantly only 82.5 billion worth of tariff reductions.
Fifth 1960 - 61 (Dillon Round)	Geneva (Switzerland)	Cut in tariffs averaged by 20 per cent. EC negotiated for the first time as a unit 4,400 tariff concessions exchanged, covering \$ 4.9 billion worth of trade.
Sixth (1964 - 67)	Geneva (Switzerland)	Achieved 35 per cent reduction in tariffs on manufactured goods, covering \$40 billion of trade.
Seventh 1973 - 79	Tokyo (Japan)	Signed 11 agreements covering non-tariff barriers, subsidised exports, and tropical products. Tariff reduction and binding covered about \$ 300 billion of trade.
Eighth : 1986 - 93 (Uruguay Round)	Punta Del Este (Uruguay/Geneva)	Agriculture included in agenda for the first time. Now terms of trade in services, protection of intellectual property rights and deregulation of controls over foreign investments. Tariffs on industrial goods reduced. Reduction in farm export subsidies. Removal of import barriers, TRIPs, TRIMs and MFA.

### MAJOR ISSUES OF NEGOTIATIONS:

With the adoption of a 'package approach', the Uruguay Round is the most complex, complicated and ambitious of any post-war multinational negotiations on a plethora of issues. Initially, the Uruguay Round of Ministerial Declaration signed in September, 1988 contained a mandate for negotiations on a plethora of issues. Initially, the Uruguay Round of Ministerial Declaration signed in September, 1988 contained a mandate for negotiations in 15 major areas : of which 14 areas relating to trade in goods, included in track I meant for the group of negotiations on goods, and the 15<sup>th</sup> area pertaining to the liberalisation of services, included in track I meant for the group of negotiations on services, included on services. The group and issues in the Uruguay Round are briefly narrated in Table 12.3.2.

Table 24.2

**Groups and Issues in the Uruguay Round***Negotiating**Main**Groups**Issues***Track I : Group of Negotiations on Good**

1. Tariffs	(i)	Reduction/elimination of existing tariffs
	(ii)	Tariff escalation
	(iii)	Formula approach vs Product-by-Product approach
2. Non-Tariff Measures	(i)	Elimination/reduction of any non-tariff measures, including quantitative restrictions
	(ii)	How to establish "equivalence" for bilateral negotiations
	(iii)	Whether to treat unjustified quantitative restrictions (QRs) as negotiable, or whether to insist on rolling back these QRs.
3. Natural Resource Based Products	(i)	Tariff escalation
	(ii)	Use of quantitative restrictions
	(iii)	Access to supplies
	(iv)	Products coverage in the group's work
4. Textiles and Clothing	(i)	What procedures could be used to integrate trade in textiles and clothing into the workings of the GATT; in effect, how to dismantle the MFA.
5. Agriculture	(i)	Improved market access through reduction of import barriers.
	(ii)	Increased discipline over measures not conforming with the GATT, including direct and indirect subsidies, quotas, also reduction of subsidies which do not conform with the GATT.
6. Tropical Products	(i)	Increased liberalisation of processed and semi-processed tropical products.

Business Economics	24. 8	General Agreement ...
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- |   |       |  |
|---|-------|--|
|   | (ii)  | Tariff and non-tariff liberalisation   |
|   | (iii) | How much reciprocity should be required of developing countries.   |
|   | (iv)  | Coverage by product  |
| 7. GATT Articles  | (i)   | Articles on tariff bindings, customs unions balance of payments, state trading, waivers etc. are to be reviewed. |
| 8. MTN Agreements and Arrangements  | (i)   | Improvement, classification one xpansion of codes.   |
| 9. Safeguards   | (i)   | Selectivity, transparency, degressivity, structural adjustment, etc.   |
| 10. Subsidies and Countervailing Measures   | (i)   | Review of the MTN Agreement on subsidies and countervailing measures   |
|   | (ii)  | Definition of subsidy  |
|   | (iii) | Discipline on export subsidies   |
| 11. Trade-Related Aspects of Intellectual Property Rights (TRIPs), Including Trade in Counterfeit goods | (i)   | Clarify GATT provisions  |
|   | (ii)  | Ensurer measures and procedurers to enforce IPR.   |
| 12. Trade-Related Investment Measures (TRIMs)   | (i)   | To elaborate on further provisions   |
| 13. Dispute Settlement  | (i)   | Effective enforcement of panel's confusions  |
|   | (ii)  | Improvement of the efficiency and transparency   |
| 14. Functioning of the GATT System  | (i)   | Enhanced surveillance in the GATT to enable monitoring of trade policies and practices of contracting parties.   |
|   | (ii)  | Improved functioning of the GATT as decision-making institution  |

**Track II : Group of Negotiations on Services**

- |              |       |  |
|--------------|-------|--|
| 15. Services | (i)   | Definition and statistical issues                            |
|              | (ii)  | Broad concepts on principles and rules for trade in services |
|              | (iii) | Coverage of multilateral discipline                          |
|              | (iv)  | Foreign investment   |
|              | (v)   | International labour mobility                                |
|              | (vi)  | Right of establishment, etc.                                 |

A Trade Negotiations Committee (TNC) was formed to monitor the overall negotiations. The TNC was headed by two chairmen, once at the official level and the other at the ministerial level.

Owing to disagreements of some member countries (especially, the USA and the EEC) on certain key issues like agriculture, the negotiations could not be completed within the scheduled time, i.e., by December, 1990. The trade negotiations, therefore, resumed by the TNC, in February 1991 by regrouping the original fifteen areas into the following seven areas : (i) Market access, (ii) Agriculture, (iii) Textiles and clothing, (iv) GATT Rules including Trade Related Investment Measure (TRIMs), (v) GATT Rules including Trade Related Investment Measures (TRIMs), (vi) Trade Related Intellectual Property Rights (TRIPs); (vii) Trade in services, and (viii) Institutional matters.

Since January 1992, these negotiations were proceeded on a four-track approach. Track I pertained to negotiations on market access concessions. Track II dealt with the initial commitments made in the area of services. Track III involved the legal conformity and internal consistency of the agreements and track IV was kept for the possibility of adjustments in the final draft.

**DUNKEL DRAFT: THE CORNERSTONE OF NEGOTIATIONS:** To expedite the resumed negotiations in 1991, Sir Arthur Dunkel, Director General of GATT and the official Chairman of the TNC, tabled a scheme of proposals (commonly referred to as the Dunkel Draft or Dunkel Text) for the consideration of the participating countries. The Dunkel Text, being a legal and technical document, covered seven areas for negotiations, namely : (i) Market Access; (ii) Agriculture; (iii) Textiles and Clothing; (iv) GATT Rules; (v) Trade Related Intellectual Property Rights (TRIPs); (vi) Trade in Services; and (vii) Institutional matters.

The Dunkel Draft (DD) though aimed at narrowing the differences between the participating countries on the extent of liberalisation of global trade become the participating countries on the extent of liberalisation of global trade become a subject of highly controversial issue for its insistence as well as for its contents as well as insistence on a total package deal agreement without asking for any concessions. In the final stage of negotiations, however, the DD was altered and amended; yet three remained a deep imbalance in the exchange of concessions, especially in the areas of textiles, agriculture, and TRIPs.

The Most Favoured Nation (MFN) clause, the key principle of the GATT, has been taken for granted in the Uruguay Round with a view to outlawing the practice of discrimination and retaliation among the participating countries and thus to promote liberalised world trade. In theoretical understanding, efficiency, growth, equity and reciprocity are purported to be the cornerstones of concealed liberal trade ethic envisaged in the construction of NIEO. In reality, however, the mode of negotiations and results of the Uruguay Round had little about economics and more of politics at war in the decision-making process involved. It contained much of the asymmetry and inequity involved in the Treaty.

**INDIA'S ROLE AND STAND:** Of course, it is out of question for India to have remained outside the mainstream of the GATT. By virtue of its membership in the GATT. India is automatically entitled to enjoy the benefit of the Most Favoured Nation (MFN) treatment

from all the other participating members. Secondly, keeping aloof herself from the GATT, India would have had to undergo bilateral agreements with several countries for improving her trade relations and yet could not have assured the same what could have been yielded through the GATT. Today, even a country like China has been keen on joining the GATT.

In the whole bargaining process of the Uruguay Round, the Indian government, by and large, played merely a spectator's role under the pretext that no clauses of the negotiations are seriously detrimental to the interests of the country. The only consolation is that there was hardly an option available to us when the country is just wedded to economic liberalisation and the GATT multilateralism is a lesser evil than bilaterism. Another argument was not forward that in view of the emerging regional trade blocs such as EFTA (European Free Trade Association), NAFTA (North American Trade Agreement), so also possibilities of other free trade blocs in the Asian and Pacific regions, it was in the interests of India that the government had to be pragmatic and positive enough in its approaches to the Uruguay Round's decisions.

At this juncture, it is not easy to say with full confidence about India's position as a net gainer or a loser from the new Treaty as there are both plus and minus points on several issues. The following points make only a broad perception of the likely outcomes of the new treaty.

- 1) Agriculture has been a major subject of the URT. Under the new treaty, member countries are required to reduce their agro-export subsidies over the six years if these exceed 10 per cent of the value of agricultural production. In the case of India, there is no need to fear about this clause, since our product and non-product specified agro-subsidies are already below 10 per cent of the total agro-output value. Member countries have agreed to reduce import duties on agricultural products by 36 per cent. Further, developed countries will have to import at least, three per cent of their agro-output. These provisions will give a boost to India's agro-exports when European farm exports will tend to be more expensive in the world market.
- 2) From India's view point, "Textiles" appears to be a green area of the GATT agreement. It is presumed that India's textile exports should be boosted by the phase-out of the multi fibre arrangement (MFA) under the new treaty. India's textile exports have already doubled from Rs. 9,558 crores in 1990-91 to Rs. 18,643 crores in 1992-93. Of the total textile exports of India, 52 per cent of the total cotton textile exports and 77 per cent of readymade garments exports are to the quota countries. With the dismantling of the quota system, apparently, India will have a better access to the quota-countries markets for her textile exports, especially cotton piece goods, knitted fabrics and ready-made garments.
- 3) Provisions for intellectual property rights (TRIPs) is a crucial area of the URT with far-reaching implications for developing countries including India. Until now only the process patent was protected. Under the new agreement inventor's rights widely cover patents, copy right, industrial design, trade marks as well as performing art. The phasing –out period is specified as 10 years for drugs and agro-chemicals and 5 years for the rest. In the years to come, software packages will tend to become

more expensive for our country. India's software industry may become stagnant, unless the government modifies the present duty structure on software and Indian companies are encouraged to develop specialised software packages. Moreover, the real outcome of gains will very much depend on how successfully the government would try to wangle more quotas and concessions in bilateral negotiations with other countries. The Indian software professionals are also expected to seek overseas assignments on an increasing scale with the easing of restrictions on their movement in the US and other developed countries.

- 4) The TRIPs are likely to create some adverse effect on pharmaceutical industry in India, when the new discoveries would become available at very heavy costs of royalties.
- 5) Under the TRIPs, seeds will be patented. Indian farmers' inputs costs will be enhanced due to royalties on seeds to be paid. Similarly, agro-chemicals of patented manufacture will be more expensive. As a result, food grain prices will go up and the average Indian consumer will be adversely affected.
- 6) Regarding services, the new treaty provides for fair trade and non-discrimination, easing entry restrictions on specialised and skilled labour. This will help India to some extent as her consultancy exports will get a boost.
- 7) India has to be the least worried about her financial sector, since the TRIMs provisions exclude banking and insurance, and the country has the right to formulate its own investment policy. In financial services, the entry of some well-known international players will, however, induce competition which will force the Indian players to improve. Similarly, the entry of well-known firms in tourism, telecommunication and consultancy will be beneficial to the Indian consumers when they will be in a position to enjoy quality products.

According to a World Bank – OECD Study as an impact of URT, India's trade is expected to reach a level of 4.6 billion dollars by 2002. Government economists in India, including Pranab Mukherjee, have rather a conservative estimate of the gain amount to be around 2 billion dollars. But these are just expectations. Real happening depends on many factors, which time can tell.

**THE FINAL ACT OF GATT 1994:** The Final Act of GATT 1994 has been signed at Marrakesh on April 15, 1994. The agreement on technical barriers to trade is an integral part of the Marrakesh agreement. Under this, the importing countries are empowered to enforce technical regulations at custom points, debarring goods not conforming to their technical regulations. These are recognised as statutory measures necessary for protection of human, animal or plant life or health, of the environment, or for the prevention of deceptive practices. Besides, the Final Act defines technical regulation as “document which lays down product characteristics or their related processes and production methods, including the applicable administrative provisions with which compliance is mandatory.”

**NON-TARIFF BARRIERS:** With the reduction of tariff barriers under GATT, there has been a growing emergence of non-tariff barriers adversely affecting free-trade notion and norms. The GATT had no effective measure to check the phenomenon till the Uruguay Treaty was signed.

The major non-tariff barriers such as 1. Variable Levies, 2. Export Restrictions, 3. Consumer Protection Legislation, 4. Health Regulations, 5. Child Labour Regulations, 6. Carrier of Origin Requirements, 7. Discriminatory Voluntary Import Expansion are practiced.

### 24.3 THE WORLD TRADE ORGANISATION (WTO):

The establishment of the World Trade Organisation (WTO) as the successor to the GATT on 1 January 1995 under the Marrakesh Agreement places the global trading system on a firm constitutional footing with the evolution of international economic legislation resulted through the Uruguay Round of GATT negotiations.

A remarkable feature of the Uruguay Round was that it paved the way for further liberalisation of international trade with the fundamental shift from the negotiation approach to the institutional framework envisaged through transmission from GATT to WTO Agreement.

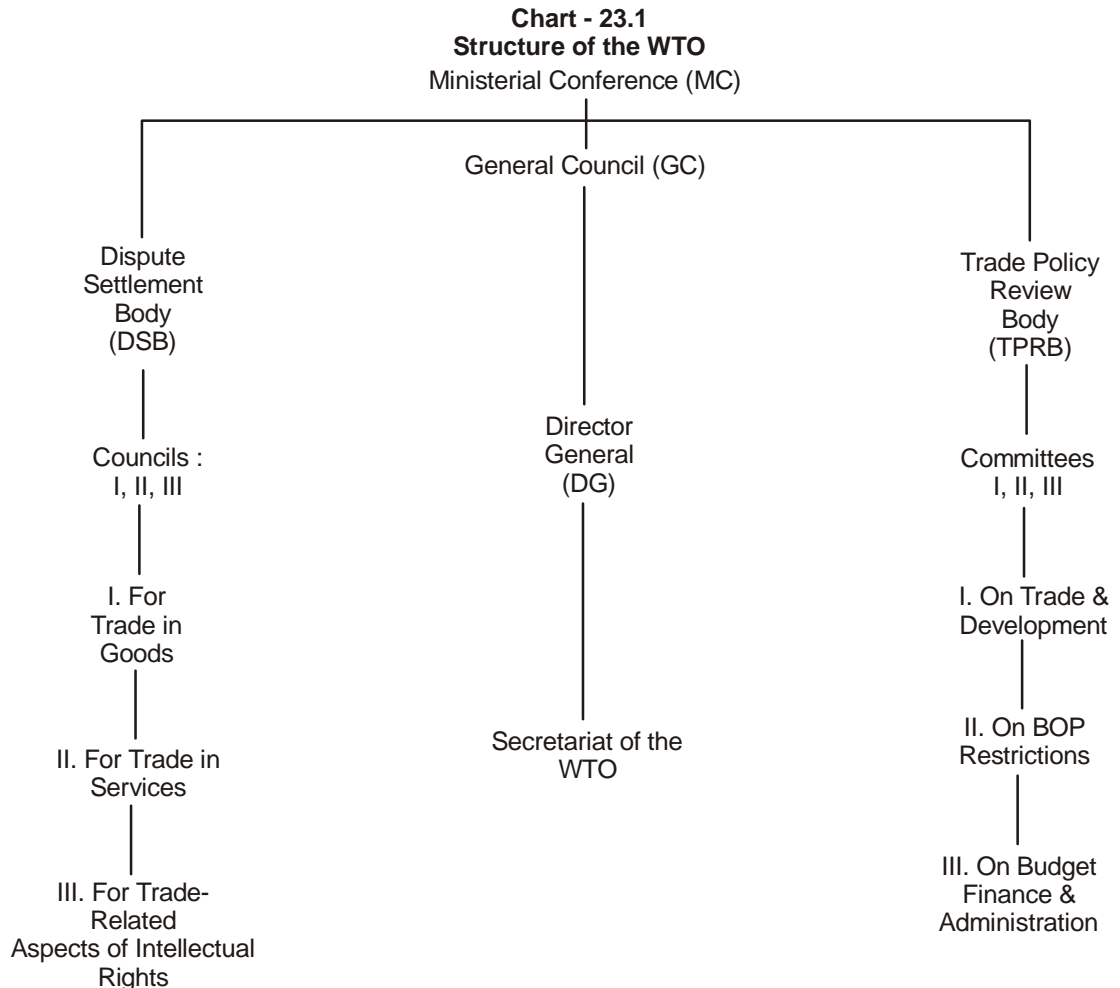
The GATT 1947 and the WTO co-existed for the transitional period of one year in 1994. In January 1995, however, the WTO completely replaced the GATT. The membership of the WTO increased from 77 in 1995 to 127 by the end of 1996.

**24.3.1 FEATURES OF THE WTO:** The distinctive features of the WTO are:

- \* Unlike the GATT, is a legal entity.
- \* Unlike the International Monetary Fund (IMF) and the World Bank (WB) it is not an agent of the United Nations.
- \* Unlike the IMF and the World Bank, there is no weighted voting, but all the WTO members have equal rights.
- \* Unlike the GATT, agreements under the WTO are permanent and binding to the member countries.
- \* Unlike the GATT, the WTO dispute settlement system is based not on dilatory but automatic mechanism. It is also quicker and binding on the members. As such, the WTO is a powerful body.
- \* Unlike the GATT, the WTO's approach is rule-based and time-bound.
- \* Unlike the GATT, the WTO's has a wider coverage. It covers trade in goods as well as services.
- \* Unlike the GATT, the WTO's has a focus on trade-related aspects of intellectual property rights and several other issues of agreements.
- \* Above all, the WTO is a huge organizational body with a large secretariat.

### 24.3.2 STRUCTURE OF THE WTO:

The organizational structure of the WTO is given in the following Chart 24.1.



The Ministerial Conference (MC) is at the top of the structural organization of the WTO. It is the supreme governing body which takes ultimate decisions on all matters. It is constituted by representative (usually, Ministers of Trade) all the member countries.

The General Council (GC) is composed of the representatives of all the members. It is the real engine of the WTO which acts on behalf of the MC. It also acts as the Dispute Settlement Body as well as the Trade Policy Review Body.

There are three councils, viz., the Council for Trade in Services and the Council for Trade-Related Aspects of Intellectual Property Rights (TRIPs) Operating under the GC. These councils with their subsidiary bodies carry out their specific responsibilities.



Further, there are three committees viz., the Committee on Trade and Development (CTD), the Committee on Balance of Payments Restrictions (CBOPR), and the Committee on Budget, Finance and Administration (CFBA) which execute the functions assigned to them by the WTO Agreement and the GC.

The Administration of the WTO is conducted by the Secretariat which is headed by the Director General (DG) appointed by the MC for the tenure of four years. He is assisted by the four Deputy Directors from different member countries. The annual budget estimates and financial statement of the WTO are presented by the DG to the CBFA for review and recommendations for the final approval by the GC.

**24.3.3 Objectives and Functions of the WTO:** The purposes and objectives of the WTO are spelled out in the preamble to the Marrakesh Agreement. In a nutshell, these are :

1. To ensure the reduction of tariffs and other barriers to trade.
2. To eliminate discriminatory treatment in international trade relations.
3. To facilitate higher standards of living, full employment, a growing volume, of real income and effective demand, and an increase in production and trade in goods and services of the member nations.
4. To make positive effect, which ensures developing countries, especially the least developed secure a level of share in the growth of international trade that reflects the needs of their economic development.
5. To facilitate the optimal use of the world's resources for sustainable development.
6. To promote an integrated, more viable and durable trading system incorporating all the resolutions of the Uruguay Round's multilateral trade negotiations.

Above all, to ensure that linkages trade policies, environmental policies with sustainable growth and development are taken care of by the member countries in evolving a new economic order.

**FUNCTIONS OF THE WTO:** The WTO consisting a multifaced normative framework: comprising institutional substantive and implementation aspects. The major functions of the WTO are as follows :

1. To laydown a substantive code of conduct aiming at reducing trade barriers including tariffs and eliminating discrimination in international trade relations.
2. To provide the institutional framework for the administration of the substantive code which encompasses a spectrum of norms governing the conduct of member countries in the arena of global trade.
3. To provide an integrated structure of the administration, thus to facilitate the implementation, administration and fulfilment of the objectives of the WTO Agreement and other multilateral Trade Agreements.
4. To ensure the implementation of the substantive code.

5. To act as a forum for the negotiation of further trade liberalisation.
6. To cooperative with the IMF and WB and its associates for establishing a coherence in trade policy making.
7. To settle the trade-related disputes.

**24.3.4 THE WTO CODE/AGREEMENTS:** The WTO through its code provides a framework for an integrated approach to tackle the trade-related economic issues which cannot be isolated from the world economic order.

The WTO code lies in the international instruments, such as, the GATT 1994, the Multilateral Trade Agreements (MTA) and the plurilateral Agreements. The clash/conflict between MTA and GATT 1994 is to be resolved by accepting the provisions of MTA.

In essence, the WTO Agreement is based on the results of the Uruguay Round of negotiations.

The WTO Agreement, thus, covers the following:

- \* Multilateral Agreements on Trade in goods
- \* General Agreement on Trade in services
- \* Agreement on TRIP's
- \* Rules and procedures regarding dispute settlement
- \* Plurilateral Trade Agreements (PTA)
- \* Trade Policy Review Mechanism (TPRM)

Among these, agreement on agriculture deserves attention of the developing agrarian nations. The Agreement seeks to deal with non-tariff measurers affecting global competition. It specifically aims at reducing domestic and export subsidies on agricultural goods. It is laid down that the current total aggregate measurement of support – (in terms on non-product specific subsidies and product specific subsidies) should not exceed 10 per cent of the annual value of total agricultural product measured at international price.

It is further laid down that the member countries should reduce the value of direct export subsidies to a level of 36 per cent below the 1986 – 90 base period level during the implementation span of 6 years. Moreover, the volume of subsidized exports should be reduced by 21 per cent.

The members have to allow minimum market access by reducing their import tariffs by 36 per cent and permit at least 3 per cent of their domestic consumption for foreign agricultural consumption initially and then after 6 years period it should be raised to 5 per cent.

Green box polices – relating to domestic support measurers causing a minimum impact on free trade – are not subject to such reduction commitments.

The WTO Agreement on textiles and clothing aims at securing the integration of this sector into the GATT 1994 in four phases. By January 1, 2005, (I) On January 1, 1995, 16% of total volume of imports of textiles and clothing sector in 1990; (II) January 1, 1998, not less than 17 % of 1990 imports; (III) January 1, 2002, not less than 18% of imports; (IV) January 1, 2005 all remaining products to be integrated.

Integration implies that trade in textile products and clothing will be governed by the General Rules of GATT as against the Multi-Fibre Agreement (MFA).

The WTO Agreement on anti-dumping sets out new and more detailed rules and the criteria, anti-dumping measures and dispute settlement.

The WTO Agreement embraces all internationally traded services and aims at progressive liberalisation of the service sector.

The TRIPs Agreement pertains to the protection of following categories of intellectual property rights; (I) Copy right; (II) trademarks; (III) geographical indications; (IV) industrial designs; (V) patents; (VI) integrated circuits; and (VII) trade secrets.

Regarding copy rights it is specified that the Berne Convention should be compiled for the protection of liberally, artistic works including computer programming.

The owner of the registered trade mark process exclusive rights for its use.

The geographical indication relate to the identification of a product originating in the territory of the member state; and it should be legally protected.

Industrial designs are to be protected for at least 10 years and patents for 20 years.

Topographic of integrated circuits to be protected for 10 years. Trade secrets and know-how of commercial value to be protected against breach of trust.

The member governments are required to enact suitable legislations in this regard. The Council for TRIPs is, to monitor the members' compliance in this direction.

The Dispute Settlement Body to be set-up by the WTO is to govern the dispute settlement system as per rules and procedures laid down.

Plurilateral Trade Agreements (PTA) consist : (I) Agreement on Trade in Civil Aircraft; (II) Agreement on Government Procurement; (III) International Bovine meat Agreement and (IV) International Dairy Agreement.

TPRM is meant to review the trade policies and practices under MTA and PTA. The task to be carried out by the Trade Policy Review Body.

**THE WTO IN ACTION:** In December 1996, Singapore hosted the first biennial Ministerial Meeting of the WTO. The participants reasserted their faith in commitment for the multilateral trading system and free trade as envisaged by the WTO. Several new issues such as multilateral investment agreement, government procurement, competition policy and labour standards have been discussed. Negotiations regarding liberalisation of financial sector, maritime services and telecommunications were observed to be slow in progress.

Twenty-eight member countries, however, signed an agreement on Information Technology (IT) for completely scrapping the tariffs on related items, such as, computers, software, semiconductors, photocopiers, capacitors and fibre-optics cables.

Critics, however, observed that the negotiations were mostly in favour of the rich and not the poor countries. Domination of the developed countries was clearly revealed in this meeting.

A notable feature of the WTO is active functioning of the Dispute Settlement Body with several cases of disputes to be solved in hand. It acted boldly and gave a ruling against a United States gasoline tax and the country had to agree for the suggested legal amendment.

Further in November 1996, it gave its ruling in favour of Costa Rica against the United States regarding the sale of cotton shirts.

Similarly, in December 1996, it gave a ruling against the United States regarding the sale of Indian woollen garments.

The just approach of the DSB has, thus, strengthened the confidence of the developing countries in the WTO.

#### **24.4 WTO AND INDIA:**

However, it was agreed that subsidies applicable solely to domestic enterprises and government procurement policy in favour of domestic producers will not violate the TRIMS agreement. Thus, under TRIMS Agreement, investment regulations have to accord same treatment to domestic products and imports. The TRIMS agreement requires removal of quantitative restrictions on imports and exports. However, exemptions are allowed if a country is suffering from balance of payment problems.

The industrialised countries were required to eliminate conditions covered under TRIMS by July 1, 1997. Developing countries were required to do so by 2000 and least developed countries were required to eliminate them by 2002.

India notified the TRIMS required by it before 2000. It notified two TRIMS conditions (1) relating to local content requirements in the production of certain pharmaceutical products and (2) dividend balancing requirements in the case of investment in 22 categories of consumer items. These were to be eliminated by 1-1-2000. The developing countries, including India requested for extension of transition period for the elimination of the notified TRIMS. In view, of the failures of the State Ministerial Conference and Cancun conference no final decision was taken on this request of the developing countries.

#### **INDIA'S GAIN FROM WTO:**

Almost a ten years has passed when India joined WTO from the very beginning in January 1, 1995. India has benefited from joining W.T.O. despite the failures of two ministerial level conferences at Seattle and Cancun. The following are the gains India has achieved by joining WTO.

- A) EXPORTS AND IMPORTS:** The recent statistics states that India's exports have almost doubled in less than a decade. With exports going up from \$ 26.33 billion in 1994 – 1995, when India joined WTO to \$ 51.7 billion in 2002 – 03. Besides, India's share in total world goods and commercial services increased from 0.6 in 1995 to 0.86 in 2001 whereas its total world imports of goods and commercial services increased from 0.78 in 1995 to 0.99 per cent during the same period.
- B) EXPORTS OF TEXTILES AND CLOTHING:** According to Multi-Fibre Agreement (MFA) entire quotas in textile and clothing trade will come to end from January 1, 2005. With effect from January 1, 2005, the entire textiles and clothing trade would get integrated into the multilateral trade framework of WTO. According to recent report (Feb 2004), after China, India is largest gainer from the end of quotas and the consequent free trade in textiles and clothing. It is estimated that export market of \$ 500 billion in garments alone with employment potential of 30 million jobs will be up for grabs from which India can get a good share.
- Five years ago, Indian economists feared the country's fabrics sector would be steam-rolled by China. But recent reforms in the industry have given hope. India could see apparel exports rise between 40 – 100 per cent (\$ 6.7 billion in 2001). A target of \$ 50 billion in textile and clothing exports by 2010 is no longer a pipe dream.
- C) GAIN IN EXPORTS OF SOFTWARE SERVICES:** According to WTO agreement on free trading services, India has become a world leader in software services which are contributing a lot to foreign exchange earnings and employment generation for Indians.
- D) A GOOD DEAL OF EARNINGS FROM BPO:** BPO (Business Processing Outsourcing Services) from USA and UK are coming to India which have enabled us to earn not only foreign exchange but also to generate a large number of employment opportunities for educated Indian youth.
- E) INDIA'S DEMAND FROM THE INDUSTRIAL COUNTRIES ABOUT AGRICULTURAL SUBSIDIES AND MOVEMENT OF LABOUR:** India in its negotiating proposal demand substantial reduction in tariffs, elimination of trade-distorting domestic support and export subsidies in developed countries. The movement of professionals (i.e., labour) from developing countries is constrained by a number of factors such as lack of specific sectorial commitments, lack of mutual recognition of qualifications, lack of transparency in administration of visa regimes, discriminatory practises in use of Economic Needs Test and social security contributions. India has, therefore, sought liberalisation of movement of professionals through removal of these constraints and submitted a paper for discussion at the ongoing negotiations.

#### **FAILURE OF WTO TALKS AT CANCUM :**

At Cancum, a group of 21 developing countries led by India, Brazil and China frustrated the attempts of US-European Union Combine to pressurise the developing countries to accept the agenda that suited them most and was against the interests of the developing countries to accept

the agenda that suited them most and was against the interests of the developing countries. However, developing countries were badly treated with regard to market access of their products to the developed countries. All these were not acceptable to the developing countries including India. African countries who are badly hit by the subsidies and domestic support on the farm products by the developed countries walked out of the meeting. As a result, Cancun meeting ended without adopting any declaration.

## **24.5 SUMMARY:**

During second world war, chaos situation was arisen in the international monetary sector due to indiscriminate trade restrictions. In order to improve the international monetary co-operation, GATT came into existence. In January, the WTO completely replaced the GATT in Uruguay round. India is the founder country of GATT and WTO. The WTO has been taking different steps to improve the standard of living of the globe. The Indian Government played spectators role in Uruguay round because no-clauses of the negotiations are seriously determinants to the interests of the country. However, TRIPS is a crucial area of the Uruguay round with far-reaching implications for developing countries including India.

## **24.6 POINTS TO BE REMEMBERED:**

1. GATT came into existence in order to promote international monetary co-operation. This was signed in 1947 by some 24 major trading nations including India. The WTO is the successor to the GATT on 1 January 1995.
2. Expansion of international trade, increase of world production, development and raising standard of living of the world community as a whole are the aims of GATT.
3. The rules adopted by GATT based on three principles viz., trade should be conducted on non-discriminatory way; the use of quantitative restrictions should be condemned; and disagreements should be resolved through consultants.
4. Eight rounds of GATT (conferences) negotiations were held and the eighth round was held at Uruguay.
5. The most importance clauses is social clause.
6. Ministerial conference is top body in WTO.
7. The administration of the WTO is conducted by secretariat which is headed by Director General.
8. The WTO agreement covers multilateral agreements on trade in goods, dispute settlement plurilateral trade agreements etc.
9. India is founder member of WTO. India has been striving to improve her power and efficiency of in the world in the wake of the WTO establishment.

**24.7 GLOSSARY:**

1. Customs Duties : The tariffs that levied our exports and imports.
2. Sustained Development :
3. TRIPS : Trade Related Intellectual Property Rights.
4. TRIMS : Trade Related Investment Measurers

**24.8 Model Questions:****I. ESSAY TYPE QUESTIONS:**

1. Describe the origin of GATT ? What is its role in international business development ?
2. Write a note on W.T.O.

**II. SHORT ESSAY TYPE QUESTIONS:**

3. Mention the GATT proposals in Uruguay Round.
4. Write the India's attitude towards GATT and WTO.

**III. SHORT QUESTIONS:**

5. GATT
6. Most Favoured Nations Clause
7. Tariff Negotiations
8. TRIPS

**24.9 SUGGESTED READINGS:**

1. Soderston B.O. : International Economics
2. David Young : International Economics
3. Enke and Salora : International Economics
4. Mithani D.M. : International Economics
5. D.M. Mithani / V.S.R. Murthy : Fundamentals of Business
6. Ruddar Dutt and Sundaram : Indian Economy